DESCRIPTION

NOVEL QUINAZOLINE DERIVATIVES AND METHODS OF TREATMENT RELATED TO THE USE THEREOF

FIELD OF THE INVENTION

The present invention relates to compounds which act as antagonists for MCH receptors and to the use of these compounds in pharmaceutical compositions.

BACKGROUND OF THE INVENTION

Melanin Concentrating Hormone (MCH), a cyclic peptide, has been identified as the endogenous ligand of the orphan G-protein coupled receptor SLC-1. See, for example, Shimomura et al., Biochem. Biophys. Res. Commun. 261, 622-26 (1999). Studies have indicated that MCH acts as a neurotransmitter/neuromodulator to alter a number of behavioral responses such as feeding habits. For example, injection of MCH into rats has been reported to increase their consumption of food. Reports indicate that genetically engineered mice which lack MCH show lower body weight and increased metabolism. See Saito et al., TEM, vol. 11, 299 (2000). As such, the literature suggests that discovery of MCH antagonists that interact with SCL-1 expressing cells will be useful in developing obesity treatments. See Shimomura et al., Biochem. Biophys. Res. Commun. 261, 622-26 (1999).

G protein-coupled receptors (GPCRs) share a common structural motif. All these receptors have seven sequences of between 22 to 24 hydrophobic amino acids that form seven alpha helices, each of which spans the membrane. The fourth and fifth transmembrane helices are joined on the extracellular side of the membrane by a strand of amino acids that forms a relatively large loop. Another larger loop, composed primarily of hydrophilic amino acids, joins transmembrane helices five and six on the intracellular side of the membrane. The carboxy terminus of the receptor lies intracellularly, and the amino terminus lies in the extracellular space. It is thought that the loop joining helices five and six, as well as the carboxy terminus, interact with the G protein. Currently, Gq, Gs, Gi, and Go are G proteins that have been identified as possible proteins that interact with the receptor.

Under physiological conditions, GPCRs exist in the cell membrane in equilibrium between

two different states or conformations: an "inactive" state and an "active" state. A receptor in an inactive state is unable to link to the intracellular transduction pathway to produce a biological response. Changing the receptor conformation to the active state allows linkage to the transduction pathway and produces a biological response.

A receptor may be stabilized in an active state by an endogenous ligand or an exogenous agonist ligand. Recent discoveries, including but not exclusively limited to, modifications to the amino acid sequence of the receptor, provide alternative mechanisms other than ligands to stabilize the active state conformation. These approaches effectively stabilize the receptor in an active state by simulating the effect of a ligand binding to the receptor. Stabilization by such ligand-independent approaches is termed "constitutive receptor activation." In contrast, antagonists can competitively bind to the receptor at the same site as agonists, but do not activate the intracellular response initiated by the active form of the receptor, and therefore inhibit the intracellular responses by agonists.

Certain 2-aminoquinazoline derivatives have been reported to be NPY antagonists which are said to be effective in the treatment of disorders and diseases associated with the NPY receptor subtype Y5. See PCT Patent Application 97/20823. Quinazoline derivatives have also been found to be useful by enhancing antitumor activity. See PCT Patent Application 92/07844. And also the quinoline derivatives which have an antagonist activity for MCH receptor are known in these patents, WO03/070244, WO03/105850, WO03/45313, WO03/045920, and WO04/04726.

Recently, our current knowledge of human obesity has advanced dramatically. Previously, obesity was viewed as an oppugnant behavior of inappropriate eating in the setting of appealing foods. Studies of animal models of obesity, biochemical alterations in both humans and animals, and the complex interactions of psychosocial and cultural factors that create receptiveness to human obesity indicate that this disease in humans is multifaceted and deeply entrenched in biologic systems. Thus, it is almost certain that obesity has multiple causes and that there are different types of obesity. Not only does MCHR1 antagonist have potent and durable anti-obesity effects in rodents, it has surprising antidepressant and anxiolytic properties as well (Borowsky et al., Nature Medicine, 8, 825-830, 2002). MCHR1 antagonists have been reported to show antidepressant and anxiolytic activities in rodent models such as social interaction, forced swimming test and ultrasonic vocalization. These findings

indicate that MCHR1 antagonists could be useful for treatment of obesity patients with multiple causes. Moreover, MCHR1 antagonists could be used to treat subjects not only with obesity, but also those with depression and anxiety. These advantages make it different from NPY receptor antagonists, with which anxiogenic-like activity can be expected, as NPY itself has anxiolytic-like effect.

Obesity is also regarded as a chronic disease and the possibly of long-term treatment is a concept that is receiving more attention. In this context, it is noteworthy that the depletion of MCH leads to hypophagia as well as leanness (Shimada et al., Nature, 396, 670-674, 1998). By contrast, NPY (Erickson et al., Nature, 381, 415-418, 1996), as well as the Y1 (Fedrazzini et al., Nature Medicine, 4, 722-726, 1998) and Y5 receptors (Marsh et al., Nature Medicine, 4, 718-721, 1998), disrupted mice maintained a stable body weight or rather became obese. Considering the above reports, MCHR1 antagonists can be more attractive than Y1 or Y5 receptor antagonists in terms of long-term treatment of obese patients.

An increasing number of children and adolescents are overweight. Although not all overweight children will necessarily become overweight adults, the growing occurrence of obesity in childhood is likely to be reflected in increasing obesity in adult years. The high prevalence of obesity in our adult population and the likelihood that the nation of the future will be even more obese demands a re-examination of the health implications of this disease. See, Health Implications of Obesity. NIH Consens. Statement Online 1985 Feb 11-13; 5(9):1-7.

"Clinical obesity" is a measurement of the excess body fat relative to lean body mass and is defined as a body weight more than 20% above the ideal body weight. Recent estimates suggest that 1 in 2 adults in the United States is clinically obese, an increase of more than 25% over the past decades. Flegal M.D. et al., 22 Int. *J. Obes. Relat. Metab. Disor.* 39 (1998). Both overweight conditions and clinical obesity are a major health concerns worldwide, in particular because clinical obesity is often accompanied by numerous complications, *i.e.*, hypertension and Type II diabetes, which in turn can cause coronary artery disease, stroke, late-stage complications of diabetes and premature death. (*See*, e.g., Nishina P.M. et al., 43 *Metab.* 554 (1994)).

Although the etiologic mechanisms underlying obesity require further clarification, the net effect of such mechanisms leads to an imbalance between energy intake and expenditure. Both genetic

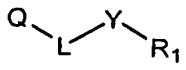
and environmental factors are likely to be involved in the pathogenesis of obesity. These include excess caloric intake, decreased physical activity, and metabolic and endocrine abnormalities.

Treatment of overweight conditions and clinical obesity via pharmaceutical agents are not only of importance with respect to the conditions themselves, but also with respect to the possibility of preventing other diseases that are associated with, *e.g.*, clinical obesity, as well as enhancement of the positive feeling of "self" that often accompanies those who are overweight or clinically obese and who encounter a significant reduction in body weight. Given the foregoing discussion, it is apparent that compounds which help in the treatment of such disorders would be useful and would provide an advance in both research and clinical medicine. The present invention is directed to these, as well as other, important ends.

SUMMARY OF THE INVENTION

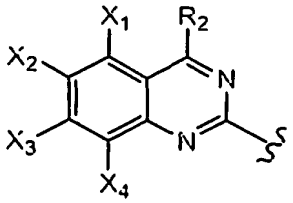
The present invention is drawn to compounds, which bind to and modulate the activity of a GPCR referred to herein as **MCH**, and uses thereof. The term **MCH**, as used herein, includes the human sequences found in GeneBank accession number NM_005297, naturally-occurring allelic variants, mammalian orthologs, biologically active fragments and recombinant mutants thereof.

One aspect of the present invention relates to certain substituted heterocyclic compounds represented by Formula (**I**):

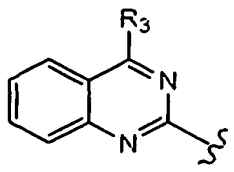


(I)

wherein Q is:

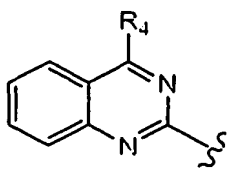


(IIa)



(IIb)

or



(IIc)

R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•oxo,

•halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy substituted by carbocyclic aryl,

•mono-C_{1-5} alkylamino,

•mono-C_{1-5} alkylamino substituted by carbocyclic aryl,

•di-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino substituted by carbocyclic aryl,

•C_{1-5} alkylthio,

•C_{3-6} cycloalkyl,

•C_{3-6} cycloalkyl substituted by C_{1-5} alkyl,

•C_{3-6} cycloalkenyl,

•carbocyclyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••hydroxy,

••halogen,

••nitro,

••amino,

••C_{1-5} alkylcarbonylamino,

••C_{3-6} cycloalkylcarbonylamino,

••carbocyclic aryl,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkylsulfonyl,

••C_{2-6} alkenyl,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

•mono-carbocyclic arylamino,

•mono-carbocyclic arylamino substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

•di-carbocyclic arylamino,

•di-carbocyclic arylamino substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

•carbocyclic aryloxy,

•carbocyclic aryloxy substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

◦◦C_{1-5} alkyl substituted by halogen,

◦◦C_{1-5} alkoxy,

◦◦C_{1-5} alkoxy substituted by halogen, and

◦◦carbocyclic aryl,

◦hydroxy,

◦heterocyclyl, and

◦heterocyclyl substituted by halogen,

(ii) C_{2-5} alkenyl, and

C_{2-5} alkenyl substituted by substituent(s) independently selected from the group consisting of:

•oxo, and

•carbocyclic aryl,

(iii) C_{2-5} alkynyl,

(iv) C_{3-12} cycloalkyl, and

C_{3-12} cycloalkyl substituted by carbocyclic aryl,

(v) carbocyclyl, and

carbocyclyl substituted by substituent(s) independently selected from the group consisting of:

•hydroxy, and

•carbocyclic aryl,

(vi) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

◦cyano,

•nitro,

•amino,

•C_{1-10} alkyl,

- C_{1-10} alkyl substituted by substituent(s) independently selected from the group consisting of:
  - halogen,
  - oxo, and
  - carbocyclic aryl,
- carboxy,
- C_{1-5} alkoxy carbonyl,
- C_{1-7} alkoxy,
- C_{1-7} alkoxy substituted by substituent(s) independently selected from the group consisting of:
  - halogen, and
  - carbocyclic aryl,
- C_{3-6} cycloalkoxy,
- carbocyclic aryloxy,
- carbocyclic aryloxy substituted by substituent(s) independently selected from the group consisting of:
  - halogen,
  - nitro,
  - C_{1-5} alkyl,
  - C_{1-5} alkyl substituted by halogen,
  - C_{1-5} alkoxy, and
  - C_{1-5} alkoxy substituted by halogen,
- heterocyclyloxy,
- heterocyclyloxy substituted by substituent(s) independently selected from the group consisting of:
  - halogen,
  - nitro,
  - C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino,

•C_{1-5} alkylcarbonylamino,

•C_{3-6} cycloalkylcarbonylamino,

•C_{1-5} alkoxy carbonylamino,

•carbocyclic aryl azo,

•carbocyclic aryl azo substituted by substituent(s) independently selected from the group consisting of:

••mono-C_{1-5} alkylamino, and

••di-C_{1-5} alkylamino,

•C_{1-5} alkylthio,

•C_{1-5} alkylthio substituted by halogen,

•carbocyclic arylthio,

•carbocyclic arylthio substituted by nitro,

•amino sulfonyl,

•heterocyclyl sulfonyl,

•C_{3-6} cycloalkyl,

•C_{3-6} cycloalkyl substituted by C_{1-5} alkyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by C_{1-5} alkoxy,

•hydroxy,

•heterocyclyl, and

•heterocyclyl substituted by C_{1-5} alkyl,

(vii) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the

group consisting of:

•halogen,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy substituted by halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy carbonyl substituted by carbocyclic aryl,

•carbocyclic aryloxy,

•carbocyclic aryloxy substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••nitro,

••cyano,

••hydroxy,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••mono-C_{1-5} alkylamino,

••di-C_{1-5} alkylamino,

••C_{1-5} alkylcarbonylamino,

••C_{3-6} cycloalkylcarbonylamino,

••C_{1-5} alkoxy,

••C_{1-5} alkoxy substituted by halogen,

••C_{3-6} cycloalkyl,

••C_{2-5} alkenyl,

••C_{2-5} alkynyl,

••carboxy,

••C_{1-5} alkoxycarbonyl,

••mono-C_{1-5} alkylaminocarbonyl,

••di-C_{1-5} alkylaminocarbonyl,

••mono-C_{3-6} cycloalkylaminocarbonyl,

••di-C_{3-6} cycloalkylaminocarbonyl,

••mono-C_{1-5} alkylaminocarbonylamino,

••di-C_{1-5} alkylaminocarbonylamino,

••mono-C_{3-6} cycloalkylaminocarbonylamino,

••di-C_{3-6} cycloalkylaminocarbonylamino,

••C_{1-5} alkylthio,

••C_{1-5} alkylthio substituted by halogen,

••C_{1-5} alkylsulfinyl,

••C_{1-5} alkylsulfinyl substituted by halogen,

••C_{1-5} alkylsulfonyl, and

••C_{1-5} alkylsulfonyl substituted by halogen,

•heterocyclyloxy,

•heterocyclyloxy substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••nitro,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

•carbocyclic aryl, and

•heterocyclyl;

R_2 is C_{1-5} alkyl or $-N(R_{2a})(R_{2b})$; wherein R_{2a} and R_{2b} are independently hydrogen or C_{1-5} alkyl,

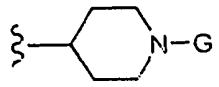
R_3 is C_{1-5} alkyl;

R_4 is $-NHNH_2$, $-NHNHBoc$, $-N(R_{4a})(R_{4b})$, morpholino, 4-acetyl-piperazyl, or 4-phenyl-piperazyl; wherein R_{4a} is hydrogen or C_{1-5} alkyl; R_{4b} is C_{1-5} alkyl, C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

- hydroxy,
- C_{1-5} alkoxy,
- amino,
- -NHBoc,
- C_{3-6} cycloalkyl,
- carbocyclic aryl,
- carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:
  - halogen,
  - C_{1-5} alkyl,
  - C_{1-5} alkoxy, and
  - $-SO_2NH_2$, and
- heterocyclyl,

C_{3-6} cycloalkyl, carbocyclic aryl, carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

- halogen,
- C_{1-5} alkyl,
- C_{1-5} alkoxy, and
- a group of Formula (**III**):



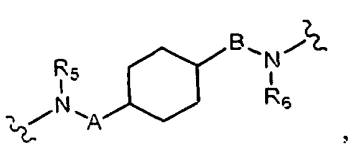
(**III**) ;

wherein Boc is carbamic acid *tert*-butyl ester and G is C_{1-5} alkyl or C_{1-5} alkyl

substituted by substituent(s) independently selected from the group consisting of:

- carbocyclic aryl,
- halogenated carbocyclic aryl, and
- carbocyclic aryl substituted by C_{1-5} alkoxy;

L is selected from the group consisting of Formulae (IV) to (XIX):



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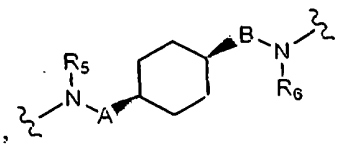

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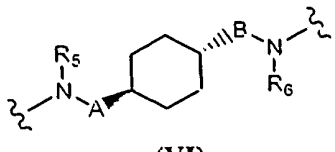

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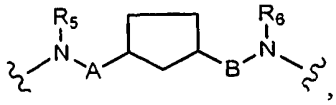

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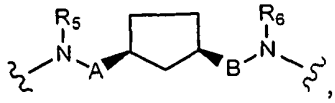

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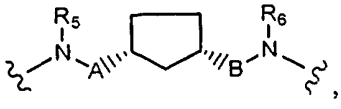

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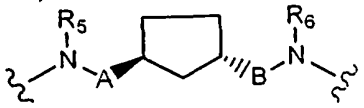

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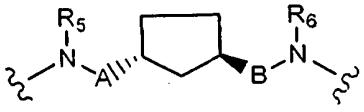

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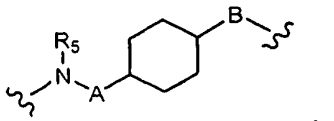

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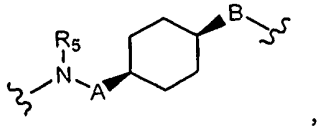

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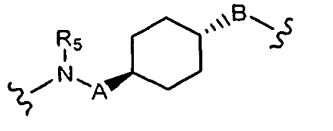

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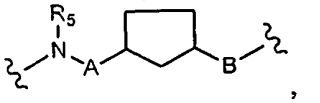

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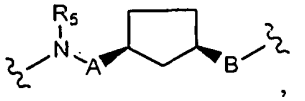

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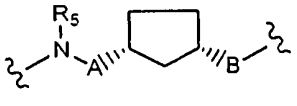

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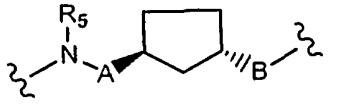

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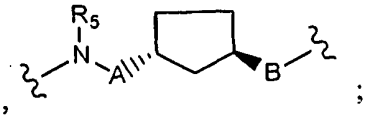


(XIX)

wherein R_5 and R_6 are independently hydrogen or C_{1-5} alkyl; and A and B are independently a single bond, $-CH_2-$, or $-(CH_2)_2-$;

X_1, X_2, X_3 and X_4 are independently selected from the group consisting of hydrogen, halogen, C_{1-4} alkyl, C_{1-4} alkyl substituted by halogen, C_{1-4} alkylthio, C_{1-4} alkylsulfinyl,

C_{1-4} alkylsulfonyl, C_{1-4} alkoxy, C_{1-4} alkoxy substituted by halogen, nitro, amino, mono-C_{1-4} alkylamino, di-C_{1-4} alkylamino, piperidyl, morpholinyl, mono-C_{1-4} alkylaminosulfonyl, di-C_{1-4} alkylaminosulfonyl and hydroxy; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen;

and

Y is selected from the group consisting of:

(i) -C(O)NR_7-, -C(S)NR_7-, or -C(O)O- when L is selected from the group consisting of Formulae (**IV**) to (**XIX**); wherein R_7 is hydrogen or C_{1-5} alkyl;

(ii) -$S(O)_2$-, -C(O)-, a single bond or -CH_2- when L is selected from the group consisting of Formulae (**IV**) to (**XI**), and Q is Formula (**IIa**) or (**IIb**);

(iii) -$S(O)_2$-, -C(O)-, a single bond or -CH_2- when L is selected from the group consisting of Formulae (**VII**) to (**XI**), and Q is Formula (**IIc**); and

(iv) -OC(O)- when L is selected from the group consisting of Formulae (**XII**) to (**XIX**);

wherein carbocyclic aryl is phenyl, naphthyl, or biphenyl;

carbocyclyl is indanyl, bicyclo[2.2.1]heptyl, bicyclo[2.2.1]heptenyl, adamantly, 9*H*-fluorenyl, menthyl, 1,2,3,4-tetrahydro-naphthalen-1-yl, or 1*H*-indolyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 3,4-dihydro-2*H*-benzo[b][1,4]dioxepinyl, 4,5,6,7-tetrahydro-benzo[b]thienyl, 4*H*-benzo[1,3]dioxinyl, benzo[1,3]dioxolyl, benzo[2,1,3]thiadiazolyl, benzothiazolyl, furyl, isoxazolyl, morpholinyl, oxazolyl, piperidyl, pyrazolyl, pyridyl, tetrahydrofuryl, thienyl, dibenzofuranyl, 1*H*-benzoimidazolyl, or thiazolyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

One aspect of the present invention pertains to pharmaceutical compositions comprising at least one compound, as described herein, in combination with a pharmaceutically acceptable carrier.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of improving memory function, sleeping and arousal, anxiety, depression, mood disorders, seizure, obesity, diabetes, appetite and eating disorders, cardiovascular disease, hypertension, dyslipidemia, myocardial infarction, binge eating disorders including bulimia, anorexia, mental disorders including manic depression, schizophrenia, delirium, dementia, stress, cognitive disorders, attention deficit disorder, substance abuse disorders and dyskinesias including Parkinson's disease, epilepsy, and addiction comprising administering to an individual suffering from said condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of an eating disorder, obesity or an obesity related disorder comprising administering to an individual suffering from the condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy comprising administering to an individual suffering from the condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition.

One aspect of the present invention pertains to compounds of the present invention, as described herein, or a pharmaceutical composition thereof, for use in a method of treatment of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as described herein, or a pharmaceutical composition thereof, for use in a method of prophylaxis or treatment of an eating disorder, obesity or an obesity related disorder of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as described herein, or a pharmaceutical composition thereof, for use in a method of prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as

described herein, for the manufacture of a medicament for use in the prophylaxis or treatment of an eating disorder, obesity or obesity related disorders.

One aspect of the present invention pertains to compounds of the present invention, as described herein, for the manufacture of a medicament for use in the prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy.

One aspect of the present invention pertains to methods of decreasing food intake of an individual comprising administering to the individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of inducing satiety in an individual comprising administering to said individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of controlling or reducing weight gain in an individual comprising administering to said individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of modulating a MCH receptor in an individual comprising contacting the receptor with a compound, as described herein. In some embodiments, the compound is an antagonist. In some embodiments, the modulation of the MCH receptor is for the prophylaxis or treatment of an eating disorder, obesity or obesity related disorder. In some embodiments, the modulation of the MCH receptor reduces food intake of the individual. In some embodiments, the modulation of the MCH receptor induces satiety in the individual. In some embodiments, the modulation of the MCH receptor controls or reduces weight gain of the individual. In some embodiments, the modulation of the MCH receptor is for prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy.

In some embodiments, the individual is a mammal.

In some embodiments, the mammal is a human.

In some embodiments, the human has a body mass index of about 18.5 to about 45. In some embodiments, the human has a body mass index of about 25 to about 45. In some embodiments, the human has a body mass index of about 30 to about 45. In some embodiments, the human has a body

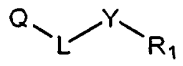
mass index of about 35 to about 45.

One aspect of the present invention pertains to methods of producing a pharmaceutical composition comprising admixing a compound, as described herein, and a pharmaceutically acceptable carrier.

This application claims priority to US Provisional Patent Application, Serial No. 60/458,424, filed March 31, 2003; and is incorporated herein by reference in its entirety.

DETAILED DESCRIPTION OF THE INVENTION

One aspect of the present invention relates to certain substituted heterocyclic compounds represented by Formula (I):



(I)

or a pharmaceutically acceptable salt, hydrate or solvate thereof, wherein Q, L, Y, and R_1 are as described herein, *supra* and *infra*.

It is appreciated that certain features of the invention, which are, for clarity, described in the context of separate embodiments, may also be provided in combination in a single embodiment. Conversely, various features of the invention which are, for brevity, described in the context of a single embodiment, may also be provided separately or in any suitable subcombination.

In some embodiments of the present invention, Q is Formulae (**IIa**), (**IIb**), or (**IIc**);

R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

- C_{1-5} alkoxy substituted by carbocyclic aryl,
- mono-C_{1-5} alkylamino,
- di-C_{1-5} alkylamino,
- C_{3-6} cycloalkyl,
- C_{3-6} cycloalkenyl,
- carbocyclyl,
- carbocyclic aryl,
- carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:
  - hydroxy,
  - halogen,
  - nitro,
  - C_{1-5} alkylcarbonylamino,
  - C_{3-6} cycloalkylcarbonylamino,
  - C_{1-5} alkyl,
  - C_{1-5} alkyl substituted by halogen,
  - C_{1-5} alkylsulfonyl,
  - C_{2-6} alkenyl,
  - C_{1-5} alkoxy,
  - C_{1-5} alkoxy substituted by halogen, and
  - carbocyclic aryl,
- heterocyclyl, and
- heterocyclyl substituted by halogen,

(ii) C_{2-5} alkenyl, and

C_{2-5} alkenyl substituted by carbocyclic aryl,

(iii) C_{2-5} alkynyl,

(iv) C_{3-12} cycloalkyl, and

C_{3-12} cycloalkyl substituted by carbocyclic aryl,

(v) carbocyclyl, and

carbocyclyl by substituent(s) independently selected from the group consisting of:

•hydroxy, and

•carbocyclic aryl,

(vi) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-10} alkyl,

•C_{1-10} alkyl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••oxo, and

••carbocyclic aryl,

•carboxy,

•C_{1-5} alkoxy carbonyl,

•C_{1-7} alkoxy,

•C_{1-7} alkoxy substituted by substituent(s) independently selected from the group consisting of:

••halogen, and

••carbocyclic aryl,

•carbocyclic aryloxy,

•carbocyclic aryloxy substituted by nitro,

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino,

•C_{1-5} alkoxy carbonylamino,

•carbocyclic aryl azo,

•carbocyclic aryl azo substituted by substituent(s) independently selected from the group consisting of:

••mono-C_{1-5} alkylamino, and

••di-C_{1-5} alkylamino,

•C_{1-5} alkylthio,

•C_{1-5} alkylthio substituted by halogen,

•carbocyclic arylthio,

•carbocyclic arylthio substituted by nitro,

•amino sulfonyl,

•heterocyclyl sulfonyl,

•C_{3-6} cycloalkyl,

•C_{3-6} cycloalkyl substituted by C_{1-5} alkyl,

•carbocyclic aryl,

•heterocyclyl, and

•heterocyclyl substituted by C_{1-5} alkyl,

(vii) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy carbonyl substituted by carbocyclic aryl,

•carbocyclic aryloxy,

•carbocyclic aryl, and

•heterocyclyl;

R_2 is $-N(R_{2a})(R_{2b})$, wherein R_{2a} is hydrogen or C_{1-5} alkyl; R_{2b} is C_{1-5} alkyl;

R_3 is C_{1-5} alkyl;

R_4 is $-N(R_{4a})(R_{4b})$ wherein R_{4a} is hydrogen or C_{1-5} alkyl; R_{4b} is C_{1-5} alkyl;

L is selected from Formula (V), (VIII), (IX), (XIII), (XVI), or (XVII);

X_1, X_2, X_3 and X_4 are independently selected from the group consisting of hydrogen, halogen, and C_{1-4} alkyl; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; and

Y is selected from the group consisting of:

(i) $-C(O)NR_7-$, $-C(S)NR_7-$, or $-C(O)O-$ when L is selected from the group consisting of Formula (V), (VIII), (IX), (XIII), (XVI), or (XVII); wherein R_7 is hydrogen or C_{1-5} alkyl;

(ii) $-S(O)_2-$, $-C(O)-$, a single bond or $-CH_2-$ when L is selected from the group consisting of Formula (VIII) or (IX); and

(iii) $-OC(O)-$ when L is selected from the group consisting of Formula (XIII), (XVI), or (XVII);

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, bicyclo[2.2.1]heptyl, bicyclo[2.2.1]heptenyl, adamantly, 9*H*-fluorenyl, menthyl, 1,2,3,4-tetrahydro-naphthalen-1-yl, or 1*H*-indolyl;

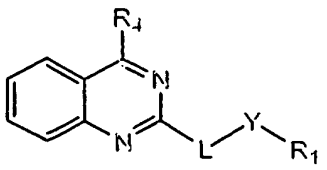
heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 3,4-dihydro-2*H*-benzo[b][1,4]dioxepinyl, 4,5,6,7-tetrahydro-benzo[b]thienyl, 4*H*-benzo[1,3]dioxinyl, benzo[1,3]dioxolyl, benzo[2,1,3]thiadiazolyl, benzothiazolyl, furyl, isoxazolyl, morpholinyl, oxazolyl, piperidyl, pyrazolyl, pyridyl, tetrahydrofuryl, thienyl, dibenzofuranyl, 1*H*-benzoimidazolyl, or thiazolyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, Q is Formula (IIc) and can be represented by

the following formula:



or a pharmaceutically acceptable salt, hydrate or solvate thereof, wherein R_4, L, Y, and R_1 are as described herein, *supra* and *infra*.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-5} alkyl, and

C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkoxy carbonyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

••C_{2-5} alkenyl, and

••C_{1-5} alkoxy,

•C_{1-5} alkylthio, and

•heterocyclyl,

(ii) C_{3-6} cycloalkyl, and

C_{3-6} cycloalkyl substituted by carbocyclic aryl,

(iii) carbocyclyl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••oxo, and

••carbocyclic aryl,

•C_{1-5} alkoxy carbonyl,

•C_{1-7} alkoxy,

•C_{1-7} alkoxy substituted by substituent(s) independently selected from the group consisting of:

••halogen, and

••carbocyclic aryl,

•cycloalkoxy,

•carbocyclic aryloxy,

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino,

•C_{1-5} alkylthio,

•C_{1-5} alkylthio substituted by halogen,

•carbocyclic aryl,

•heterocyclyl, and

•heterocyclyl substituted by C_{1-5} alkyl,

(v) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkyl,

◦C_{1-5} alkyl substituted by halogen,

◦C_{1-5} alkoxy carbonyl

◦C_{1-5} alkoxy carbonyl substituted by carbocyclic aryl, and

•carbocyclic aryl;

L is Formula (V);

and

Y is $-C(O)NR_7-$; wherein R_7 is hydrogen or C_{1-5} alkyl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, adamantly, or 9*H*-fluorenyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 3,4-dihydro-2*H*-benzo[b][1,4]dioxepinyl, 4*H*-benzo[1,3]dioxinyl, benzo[1,3]dioxolyl, benzothiazolyl, furyl, isoxazolyl, piperidyl, pyridyl, or thienyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_{4a} is hydrogen or methyl; R_{4b} is methyl; R_5 and R_6 are hydrogen; A is a single bond and B is a single bond or $-CH_2-$; and R_7 is hydrogen; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-5} alkyl, and

C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkoxy carbonyl,

◦carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

••C_{2-5} alkenyl, and

••C_{1-5} alkoxy,

•C_{1-5} alkylthio, and

•heterocyclyl,

(ii) C_{3-6} cycloalkyl, and

C_{3-6} cycloalkyl substituted by carbocyclic aryl,

(iii) carbocyclyl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy substituted by halogen,

•cycloalkoxy,

•carbocyclic aryloxy,

•C_{1-5} alkylthio, and

•carbocyclic aryl,

(v) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen, and

•carbocyclic aryl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is 9*H*-fluorenyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 3,4-dihydro-2*H*-benzo[b][1,4]dioxepinyl, 4*H*-benzo[1,3]dioxinyl, benzo[1,3]dioxolyl, furyl, isoxazolyl, or thienyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-5} alkyl, and

C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkoxy carbonyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl, and

••C_{2-5} alkenyl,

•C_{1-5} alkylthio,

(ii) C_{3-6} cycloalkyl, and

C_{3-6} cycloalkyl substituted by carbocyclic aryl,

(iii) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

•cycloalkoxy,

•carbocyclic aryloxy,

•C_{1-5} alkylthio, and

•carbocyclic aryl,

(iv) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen, and

•carbocyclic aryl;

wherein carbocyclic aryl is phenyl or naphthyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 3,4-dihydro-2*H*-benzo[b][1,4]dioxepinyl, benzo[1,3]dioxolyl, furyl, or isoxazolyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-benzyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(2-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(4-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-butyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-cyclohexyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)-urea;

N-(2,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)-urea;

ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-amino)benzoate;

ethyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-amino)benzoate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)urea;

ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-leucinate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(3-isopropenylphenyl)-1-methylethyl]urea;

methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-methioninate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxyphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxyphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxyphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(methylthio)-phenyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybenzyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(2S)-2-phenylcyclopropyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-phenylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenoxyphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-pentylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethyl)-phenyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(1-naphthyl)ethyl]-urea;

methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-phenylalaninate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-phenylethyl)urea;

1-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1-phenyl-ethyl)-urea;

1-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1-naphthalen-1-yl-ethyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(methylthio)-phenyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,5,6-tetrachlorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethyl-6-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)urea;

N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2,4-dibromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2-chloro-5-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)urea;

N-(2-chloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-isopropylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorobenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-iodophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-4-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-3-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-5-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylbenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-propylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-phenoxyphenyl)-urea;

N-(2-tert-butyl-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2-tert-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(methylthio)-phenyl]urea;

N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)urea;

N-(3,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(3,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(3,5-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(3,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylphenyl)-urea;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-amino)benzoate;

N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(3-chloro-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(3-chloro-4-methoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-ethylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorobenzyl)urea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(4-bromo-2,6-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethoxyphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-2-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorobenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-iodophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylbenzyl)urea;

N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-fluoro-2-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-9H-fluoren-9-ylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-phenylethyl)urea;

N-cyclopentyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(diphenylmethyl)urea;

N-[1-(4-bromophenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-phenylalaninate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(2-thienyl)ethyl]-urea;

N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(2,6-dibromo-4-isopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-[3-(cyclopentyloxy)-4-methoxyphenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(3,4-dihydro-2H-1,5-benzodioxepin-7-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(6-fluoro-4H-1,3-benzodioxin-8-yl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylisoxazol-4-yl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methyl-5-phenylisoxazol-4-yl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)urea;

N-(2-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-biphenyl-2-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-urea;

N-butyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea;

N-(3-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-cyclohexyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-urea;

N-(3-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,6-dimethylphenyl)urea;

N-(3,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,3-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-

dimethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-ethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-methylphenyl)urea;

ethyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}-carbonyl)leucinate;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[1-(3-isopropenylphenyl)-1-methylethyl]urea;

methyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}-carbonyl)methioninate;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxyphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methyl-2-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxyphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methoxyphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(methylthio)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-1-

naphthylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-phenylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-pentylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethyl)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-mesitylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trichlorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(1-phenylethyl)urea;

1-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-3-(1-phenyl-ethyl)-urea;

1-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-3-(1-naphthalen-1-yl-ethyl)-urea;

N-(2,6-diisopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[2-(difluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(methylthio)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,5,6-tetrachlorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-dimethyl-

6-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-tribromophenyl)urea;

N-(2,4-dibromo-6-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2,6-dibromo-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2-chloro-5-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)methyl]urea;

N-(2-chloro-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-isopropylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluoro-5-

nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorobenzyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-iodophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-5-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-5-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-3-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-4-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-5-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-6-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylbenzyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-propylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-

phenoxyphenyl)urea;

N-(2-tert-butyl-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2-tert-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[3-(methylthio)phenyl]urea;

N-(3,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,5-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(3-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(3-chloro-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-ethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[3-fluoro-5-(trifluoromethyl)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorobenzyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4,5-dimethyl-2-nitrophenyl)urea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea;

N-(4-bromo-2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexyl)methyl]urea;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea;

N-(4-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(4-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluoro-2-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorobenzyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-iodophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxy-2-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methyl-3-nitrophenyl)urea;

N-(5-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(5-fluoro-2-methylphenyl)urea;

N-cyclopentyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(diphenylmethyl)urea;

N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(4-bromo-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexyl)methyl]urea;

N-(2,6-dibromo-4-isopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-3-thienylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(6-fluoro-4H-1,3-benzodioxin-8-yl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,5-dimethylisoxazol-4-yl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methyl-5-phenylisoxazol-4-yl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(5-methyl-3-phenylisoxazol-4-yl)urea; and

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(trifluoromethoxy)-phenyl]urea;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-(2-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-butyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)-urea;

N-(2,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)-

urea;

ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-amino)benzoate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)urea;

ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonyl}leucinate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(3-isopropenylphenyl)-1-methylethyl]urea;

methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonyl}methioninate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(methylthio)phenyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(2S)-2-phenylcyclopropyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenoxyphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-pentylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethyl)-phenyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylurea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(1-naphthyl)ethyl]-urea;

methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-phenylalaninate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-phenylethyl)urea;

1-[4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1-phenyl-ethyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,5,6-tetrachlorophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)urea;

N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2,4-dibromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)urea;

N-(2-chloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-isopropylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorobenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-iodophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-3-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-5-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylbenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-nitrophenyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-propylphenyl)urea;

N-(2-tert-butyl-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(2-tert-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)urea;

N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(3-chloro-4-methoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)urea;

N-(4-bromo-2,6-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)urea;

N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorobenzyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)urea;

N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(diphenylmethyl)urea;

N-[1-(4-bromophenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}-phenylalaninate;

N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(2,6-dibromo-4-isopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-[3-(cyclopentyloxy)-4-methoxyphenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(3,4-dihydro-2H-1,5-benzodioxepin-7-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea;

N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methyl-5-phenylisoxazol-4-yl)urea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)urea;

N-(2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,6-dimethylphenyl)urea;

N-(2,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,3-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-dimethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-methylphenyl)urea;

ethyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}-carbonyl)leucinate;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(methylthio)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-phenylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethyl)phenyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-mesitylurea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trichlorophenyl)urea;

N-(2,6-diisopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-dimethyl-6-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-tribromophenyl)urea;

N-(2,4-dibromo-6-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2,6-dibromo-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)methyl]urea;

N-(2-chloro-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-isopropylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-iodophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-5-methylphenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-3-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-6-nitrophenyl)urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-propylphenyl)urea;

N-(2-tert-butyl-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(2-tert-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3,5-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-(3-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(3-chloro-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-(4-bromo-2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)methyl]urea;

N-(4-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(diphenylmethyl)urea;

N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]urea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea; and

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methyl-5-phenylisoxazol-4-yl)urea;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino,

•C_{3-6} cycloalkyl,

•C_{3-6} cycloalkenyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl, and

••C_{1-5} alkoxy,

•heterocyclyl,

(ii) C_{2-5} alkynyl,

(iii) C_{2-5} alkenyl, and

C_{2-5} alkenyl substituted by carbocyclic aryl,

(iv) C_{3-12} cycloalkyl,

(v) carbocyclyl,

(vi) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-10} alkyl,

•C_{1-10} alkyl substituted by substituent(s) independently selected from the group consisting of:

••halogen, and

••oxo,

•carboxy,

•C_{1-5} alkoxy carbonyl,

- C_{1-5} alkoxy,
- C_{1-5} alkoxy substituted by substituent(s) independently selected from the group consisting of:
  - halogen, and
  - carbocyclic aryl,
- carbocyclic aryloxy,
- carbocyclic aryloxy substituted by nitro,
- mono-C_{1-5} alkylamino,
- di-C_{1-5} alkylamino,
- C_{1-5} alkoxy carbonylamino,
- carbocyclic aryl azo,
- carbocyclic aryl azo substituted by substituent(s) independently selected from the group consisting of:
  - mono-C_{1-5} alkylamino, and
  - di-C_{1-5} alkylamino,
- C_{1-5} alkylthio,
- C_{1-5} alkylthio substituted by halogen,
- carbocyclic arylthio,
- carbocyclic arylthio substituted by nitro,
- amino sulfonyl,
- heterocyclyl sulfonyl,
- C_{3-6} cycloalkyl,
- C_{3-6} cycloalkyl substituted by C_{1-5} alkyl,
- carbocyclic aryl, and
- heterocyclyl,

(vii) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkyl,

•C_{1-5} alkoxy carbonyl,

•carbocyclic aryloxy,

•carbocyclic aryl, and

•heterocyclyl;

L is Formula (V); and

Y is -C(S)NR_7-; wherein R_7 is hydrogen or C_{1-5} alkyl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, bicyclo[2.2.1]heptyl, bicyclo[2.2.1]heptenyl, or adamantly;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, 4,5,6,7-tetrahydro-benzo[b]thienyl, benzo[1,3]dioxolyl, benzo[2,1,3]thiadiazolyl, furyl, isoxazolyl, morpholinyl, oxazolyl, piperidyl, pyrazolyl, pyridyl, tetrahydrofuryl, or thienyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_{1a} is hydrogen or methyl; R_{1b} is methyl; R_5 and R_6 are hydrogen; A is a single bond; B is a single bond or -CH_2-; and R_7 is hydrogen; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-6} alkyl, and

C_{1-6} alkyl substituted by substituent(s) independently selected from the group consisting of:

•C_{3-6} cycloalkyl,

•C_{3-6} cycloalkenyl,

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl, and

••C_{1-5} alkoxy,

•heterocyclyl,

(ii) C_{3-12} cycloalkyl,

(iii) carbocyclyl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy substituted by halogen,

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino,

•C_{1-5} alkylthio, and

•carbocyclic aryl,

(v) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkyl,

•C_{1-5} alkoxy carbonyl, and

•carbocyclic aryl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, bicyclo[2.2.1]heptyl, or bicyclo[2.2.1]heptenyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, benzo[1,3]dioxolyl, isoxazolyl, tetrahydrofuryl, or thienyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-5} alkyl, and

C_{1-5} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen, and

••C_{1-5} alkoxy,

(ii) carbocyclyl,

(iii) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•cyano,

•nitro,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen,

•C_{1-5} alkoxy carbonyl,

•C_{1-5} alkoxy,

•C_{1-5} alkoxy substituted by halogen,

•mono-C_{1-5} alkylamino,

•di-C_{1-5} alkylamino, and

•carbocyclic aryl,

(iv) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•C_{1-5} alkyl,

•C_{1-5} alkoxy carbonyl, and

•carbocyclic aryl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is bicyclo[2.2.1]heptyl;

heterocyclyl is 2,3-dihydro-benzo[1,4]dioxinyl, benzo[1,3]dioxolyl, isoxazolyl, or thienyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-(4-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-cyclohexyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-cyclopentyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)-

thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-isopropylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-hexylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-isobutylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybiphenyl-3-yl)thiourea;

N-(1,3-benzodioxol-5-ylmethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(methylthio)phenyl]-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxyphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxyphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-nitrophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(pentafluorophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-propylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylphenyl)-thiourea;

N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(methylthio)-phenyl]thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethoxy)-phenyl]thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,4-trifluorophenyl)-thiourea;

N-(2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2-chloro-4-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-iodophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-4-nitrophenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-iodophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxyphenyl)-thiourea;

N-[4-(difluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trifluoromethyl)-

phenyl]thiourea;

N-(4-bromo-2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-iodophenyl)-thiourea;

N-(5-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[(1S,4R)-bicyclo[2.2.1]hept-2-yl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[2-(4-chlorophenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4-dimethylphenyl)-thiourea;

N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2,6-diisopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2-bromo-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)-thiourea;

N-(3,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylphenyl)-thiourea;

N-(3-chloro-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)benzoate;

N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(4-fluorophenyl)-ethyl]thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorobenzyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-isopropylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybenzyl)-thiourea;

methyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)benzoate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-phenylethyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(diphenylmethyl)-thiourea;

N-(cyclohexylmethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-cyclooctyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-cyclopropyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-naphthylmethyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,2-diphenylethyl)-thiourea;

N-(2,3-dimethoxybenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,5-trimethylphenyl)thiourea;

N-[2-(2,5-dimethoxyphenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorobenzyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylbenzyl)-thiourea;

N-(3-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-

carbonothioyl}amino)benzoate;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-ethylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorobenzyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxybenzyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylbenzyl)-thiourea;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-2-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)thiourea;

N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2,3-dihydro-1H-inden-5-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-cycloheptyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(1R)-1-phenylethyl]-thiourea;

N-(2-cyclohex-1-en-1-ylethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)-thiourea;

N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2,4-dichloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,5-dimethylphenyl)-thiourea;

N-(2-bromo-4-isopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2-bromo-5-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxybenzyl)-thiourea;

N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-bromo-2-(trifluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-chloro-2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenylbutyl)-thiourea;

N-bicyclo[2.2.1]hept-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)-4-methylthiophene-2-carboxylate;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)thiophene-2-carboxylate;

N-(2-bromo-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-(dimethylamino)-1-naphthyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,6-dimethylphenyl)thiourea;

N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-isopropylphenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-isobutylthiourea;

N-(1,3-benzodioxol-5-ylmethyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-nitrophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(pentafluorophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(tetrahydrofuran-2-ylmethyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,4-trifluorophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethylphenyl)thiourea;

N-(5-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(1S,4R)-bicyclo[2.2.1]hept-2-yl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea;

N-[2-(3,4-dimethoxyphenyl)ethyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-tribromophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trichlorophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-mesitylthiourea;

N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea;

N-(2,6-diisopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-methylphenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropylphenyl)thiourea;

N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[1-(4-fluorophenyl)ethyl]thiourea;

N-(5-chloro-2-methoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(diphenylmethyl)thiourea;

N-cyclododecyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-thiourea;

N-(cyclohexylmethyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,5,6-tetrachlorophenyl)thiourea;

N-(2,3-dimethoxybenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-(2,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-5-nitrophenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxy-2-methylphenyl)thiourea;

N-(2,4-dibromo-6-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-(2,4-dichloro-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,5-dimethylphenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethoxyphenyl)thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)thiourea;

N-[4-bromo-2-(trifluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea;

N-bicyclo[2.2.1]hept-2-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-bicyclo[2.2.1]hept-5-en-2-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-(cyclopropylmethyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea; and

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(5-methyl-3-phenylisoxazol-4-yl)thiourea;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-(4-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-

isopropylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxyphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)thiourea;

N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-4-nitrophenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-methylphenyl)thiourea;

N-(4-bromo-2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-iodophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylthiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4-dimethylphenyl)-thiourea;

N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(2-bromo-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexyl)thiourea;

N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)-thiourea;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)benzoate;

N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-naphthylmethyl)-thiourea;

N-(2,3-dimethoxybenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,5-trimethylphenyl)thiourea;

N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)thiourea;

N-(3-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)benzoate;

N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-2-methylphenyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)thiourea;

N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(1R)-1-phenylethyl]-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)-thiourea;

N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(2,4-dichloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)-thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)thiourea;

N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-thiourea;

N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-bromo-2-(trifluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea;

N-(4-chloro-2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-bicyclo[2.2.1]hept-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)-4-methylthiophene-2-carboxylate;

methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]-carbonothioyl}amino)thiophene-2-carboxylate;

N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-[4-(dimethylamino)-1-naphthyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)thiourea;

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)thiourea;

N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]thiourea;

N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]thiourea;

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,5,6-tetrachlorophenyl)thiourea; and

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)thiourea;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

◦halogen,

◦C_{1-5} alkoxy,

◦C_{1-5} alkoxy substituted by carbocyclic aryl,

◦carbocyclyl,

◦carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••nitro, and

••C_{1-5} alkoxy,

(ii) C_{2-5} alkenyl,

(iii) carbocyclyl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkyl,

•C_{1-5} alkyl substituted by halogen, and

•C_{1-5} alkoxy;

L is Formula (V); and

Y is -C(O)O-;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is 9*H*-fluorenyl or menthyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_{4a} is hydrogen or methyl; R_{4b} is methyl; R_5

and R_6 are hydrogen; A is a single bond; and B is a single bond or $-CH_2-$; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid 2-benzyloxy-ethyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid 4,5-dimethoxy-2-nitro-benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid 2-chloro-benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid 4,5-dimethoxy-2-nitro-benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid 4-nitro-benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid 2-chloro-benzyl ester;

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid 4-nitro-benzyl ester; and

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

R_4 is $-N(R_{4a})(R_{4b})$ wherein R_{4a} and R_{4b} are independently C_{1-5} alkyl;

L is Formula (VIII) or (IX) wherein R_5 and R_6 are both hydrogen; A and B are each independently a single bond or $-CH_2-$; and

Y is a single bond;

wherein carbocyclic aryl is phenyl; and

halogen is fluoro or chloro;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

wherein carbocyclic aryl is phenyl; and

halogen is fluoro or chloro;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_4 is $-N(CH_3)_2$; L is Formula (VIII) or (IX) wherein A is a single bond and B is $-CH_2-$, or A is $-CH_2-$ and B is a single bond; and Y is a single bond; wherein carbocyclic aryl is phenyl; and halogen is fluoro; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the

compound is selected from the group consisting of:

N^2-[(1S,3R)-3-({[4-bromo-2-(trifluoromethoxy)benzyl]amino}-methyl)cyclopentyl]-N^4,N^4-dimethylquinazoline-2,4-diamine;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••hydroxy,

••halogen,

••nitro,

••C_{1-5} alkylcarbonylamino,

••C_{3-6} cycloalkylcarbonylamino,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkylsulfonyl,

••C_{1-5} alkoxy,

••C_{1-5} alkoxy substituted by halogen, and

••carbocyclic aryl,

•heterocyclyl, and

•heterocyclyl substituted by halogen,

(ii) C_{3-12} cycloalkyl, and

C_{3-12} cycloalkyl substituted by carbocyclic aryl,

(iii) carbocyclyl, and

carbocyclyl by substituent(s) independently selected from the group

consisting of:

•hydroxy, and

•carbocyclic aryl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-5} alkoxy, and

•nitro,

(v) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•halogen, and

•C_{1-5} alkoxy,

R_1 is $-N(R_{1a})(R_{1b})$ wherein R_{1a} and R_{1b} are each independently C_{1-5} alkyl;

L is Formula (XIII); wherein R_5 and R_6 are both hydrogen; A is a single bond and B is a single bond or $-CH_2-$; and

Y is $-C(O)NR_7-$, wherein R_7 is hydrogen or C_{1-5} alkyl;

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, 9*H*-fluorenyl, 1,2,3,4-tetrahydro-naphthalen-1-yl, or 1*H*-indolyl;

heterocyclyl is benzo[1,3]dioxolyl, pyridyl, dibenzofuranyl, 1*H*-benzoimidazolyl, or thiazolyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group

consisting of:

◦carbocyclic aryl,

◦carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••hydroxy,

••halogen,

••nitro,

••C_{1-5} alkylcarbonylamino,

••C_{1-5} alkyl,

••C_{1-5} alkyl substituted by halogen,

••C_{1-5} alkylsulfonyl,

••C_{1-5} alkoxy,

••C_{1-5} alkoxy substituted by halogen, and

••carbocyclic aryl,

•heterocyclyl, and

•heterocyclyl substituted by halogen,

(ii) C_{3-12} cycloalkyl, and

C_{3-12} cycloalkyl substituted by carbocyclic aryl,

(iii) carbocyclyl,

(iv) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen, and

•nitro,

(v) heterocyclyl, and

heterocyclyl substituted by substituent(s) independently selected from the group consisting of:

•halogen, and

•C_{1-5} alkoxy,

wherein carbocyclic aryl is phenyl or naphthyl;

carbocyclyl is indanyl, 9*H*-fluorenyl, or 1,2,3,4-tetrahydro-naphthalen-1-yl;

heterocyclyl is benzo[1,3]dioxolyl, or pyridyl;

and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_4 is $-N(CH_3)_2$; A and B are both a single bond; and Y is -C(O)NH-; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3-dimethylbenzyl)-cyclohexanecarboxamide;

cis-N-(2-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-methylbenzyl)-cyclohexanecarboxamide;

cis-N-[3,5-bis(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,4-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(1,2,3,4-tetrahydronaphthalen-1-yl)cyclohexanecarboxamide;

cis-N-(2,3-dihydro-1H-inden-2-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-nitrophenyl)ethyl]-

cyclohexanecarboxamide;

cis-N-(3,5-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(trifluoromethoxy)benzyl]-cyclohexanecarboxamide;

cis-N-(4-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-methoxybenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-fluoro-4-nitrophenyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-fluoro-4-methylbenzyl)-cyclohexanecarboxamide;

cis-N-(5-chloro-2-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide; and

cis-N-(2,4-dichloro-6-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

cis-N-(2,3-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,4-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,4-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,3-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,5-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxybenzyl)-cyclohexanecarboxamide;

cis-N-(3,4-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3,5-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-hydroxy-3-methoxybenzyl)-cyclohexanecarboxamide;

cis-N-(1,3-benzodioxol-5-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(4-nitrophenyl)ethyl]-cyclohexanecarboxamide;

cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid (*trans*-2-phenylcyclopropyl)-amide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-methylphenyl)ethyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(1-naphthyl)ethyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxyphenyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-iodobenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-methoxybenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-iodophenyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(propionylamino)benzyl]-cyclohexanecarboxamide;

cis-N-benzyl-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide;

cis-N-[(6-chloropyridin-3-yl)methyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(3-methoxyphenyl)ethyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[1-(4-fluorophenyl)ethyl]-cyclohexanecarboxamide;

cis-N-[(1R)-1-(4-chlorophenyl)ethyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-[1-(4-bromophenyl)ethyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(1-naphthyl)ethyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3,5-dimethylbenzyl)-cyclohexanecarboxamide;

cis-N-(3-chloro-2-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(5-fluoro-2-methylbenzyl)-cyclohexanecarboxamide;

cis-N-(3-chloro-2,6-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(biphenyl-3-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexanecarboxamide;

cis-N-(biphenyl-4-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(6-chloro-2-fluoro-3-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-fluorobenzyl)-cyclohexanecarboxamide;

cis-N-(2,6-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(1-naphthylmethyl)-cyclohexanecarboxamide;

cis-N-(4-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3,4-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-fluorobenzyl)-cyclohexanecarboxamide;

cis-N-(2,5-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2,3-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3-bromo-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(4-bromo-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-

cyclohexanecarboxamide;

cis-N-(5-bromo-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(4-chloro-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methylbenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-methylbenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-(trifluoromethoxy)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3,4-trifluorobenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,4,5-trifluorobenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3,4,5-trifluorobenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3,6-trifluorobenzyl)-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-fluoro-5-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-fluoro-2-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-fluoro-4-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-fluoro-3-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-fluoro-3-(trifluoromethyl)benzyl]-

cyclohexanecarboxamide;

cis-N-[4-chloro-3-(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2-chloro-6-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3-chloro-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(2-chloro-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-[2-chloro-5-(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-[2-(difluoromethoxy)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-[3-(difluoromethoxy)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethoxy)benzyl]-cyclohexanecarboxamide;

cis-N-(2,6-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-phenylethyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-methoxyphenyl)ethyl]-cyclohexanecarboxamide;

cis-N-[bis(4-methoxyphenyl)methyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-(trifluoromethyl)benzyl]-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-9H-fluoren-9-

ylcyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(methylsulfonyl)benzyl]-cyclohexanecarboxamide; and

cis-N-(6-chloropyridin-3-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••C_{1-5} alkoxy, and

••C_{1-5} alkoxy substituted by halogen,

(ii) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen, and

•C_{1-7} alkoxy,

R_4 is $-N(R_{4a})(R_{4b})$ wherein R_{4a} and R_{4b} are each independently C_{1-5} alkyl;

L is Formula (XIII) wherein R_5 is hydrogen; A is a single bond and B is a single bond or $-CH_2-$; and

Y is -C(O)O- or -OC(O)-;

wherein carbocyclic aryl is phenyl or naphthyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_4 is $-N(CH_3)_2$; or a pharmaceutically

acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-10} alkyl,

•C_{1-10} alkyl substituted by halogen,

•C_{1-7} alkoxy, and

•C_{1-7} alkoxy substituted by halogen,

R_4 is $-N(R_{4a})(R_{4b})$ wherein R_{4a} and R_{4b} are each independently C_{1-5} alkyl;

L is Formula (VIII) or (IX) wherein A and B are each independently a single bond or $-CH_2-$; and

Y is -C(O)-,

wherein carbocyclic aryl is phenyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_4 is $-N(CH_3)_2$; R_5 and R_6 are both hydrogen; and A is a single bond, and B is $-CH_2-$; or A is a $-CH_2-$, and B is a single bond, or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

3,4-dichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)-methyl]benzamide;

N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-4-fluorobenzamide;

4-chloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-benzamide; and

N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3,5-difluorobenzamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3,5-dimethoxybenzamide;

2,4,6-trichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)-methyl]benzamide;

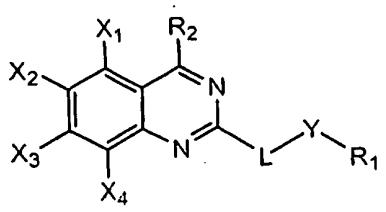
N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3-fluoro-4-(trifluoromethyl)benzamide;

N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-4-(trifluoromethoxy)benzamide; and

N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-2,4-difluorobenzamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, Q is Formula (IIa) and can be represented by the following formula:



or a pharmaceutically acceptable salt, hydrate or solvate thereof, wherein X_1-X_4, R_2, L, Y, and R_1 are as described herein, *supra* and *infra*.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by carbocyclic aryl,

(ii) carbocyclic aryl, and

carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

•halogen,

•C_{1-10} alkyl,

•C_{1-10} alkyl substituted by halogen,

•C_{1-7} alkoxy, and

•C_{1-7} alkoxy substituted by halogen,

R_2 is $-N(R_{2a})(R_{2b})$, wherein R_{2a} and R_{2b} are each independently C_{1-5} alkyl;

L is Formula (V) wherein R_5 and R_6 are both hydrogen; A and B are both a single bond;

X_1, X_2, X_3 and X_4 are independently selected from the group consisting of hydrogen, halogen, and C_{1-4} alkyl; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; and

Y is -C(O)-;

wherein carbocyclic aryl is phenyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_2 is $-N(CH_3)_2$; and X_1, X_2, X_3 and X_4 are independently selected from the group consisting of hydrogen, fluoro, and methyl; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-2,2-diphenylacetamide;

N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-4-fluoro-3-

(trifluoromethyl)benzamide;

N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-3,5-bis(trifluoromethyl)benzamide; and

N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-3,4,5-trimethoxybenzamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

3-chloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-benzamide;

3,4-dichloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-benzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3,5-dimethoxybenzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)benzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-4-methylbenzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-4-fluorobenzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3-methoxybenzamide;

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3,4-difluorobenzamide; and

N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3-(trifluoromethyl)benzamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

(i) C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

◦carbocyclic aryl,

◦carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

◦◦halogen,

◦◦C_{1-5} alkyl,

◦◦C_{1-5} alkyl substituted by halogen,

◦◦C_{1-5} alkoxy, and

◦◦C_{1-5} alkoxy substituted by halogen,

(ii) heterocyclyl, and

heterocyclyl substituted by halogen,

R_2 is $-N(R_{2a})(R_{2b})$, wherein R_{2a} and R_{2b} are each independently C_{1-5} alkyl;

L is Formula (XIII);

X_1, X_2, X_3 and X_4 are independently hydrogen or halogen; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; and

Y is $-C(O)NR_7-$ wherein R_7 is hydrogen or C_{1-5} alkyl;

wherein carbocyclic aryl is phenyl;

heterocyclyl is pyridyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_2 is $-N(CH_3)_2$; L is Formula (XIII) wherein A and B are both a single bond; X_1, X_2, X_3 and X_4 are independently hydrogen or fluoro; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; and Y is -C(O)NH-; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

cis-N-benzyl-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3,5-dimethoxybenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(3-methoxybenzyl)-cyclohexanecarboxamide;

cis-N-[(6-chloropyridin-3-yl)methyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]-amino}cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[3-(trifluoromethyl)-benzyl]cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[4-(trifluoromethyl)-benzyl]cyclohexanecarboxamide;

cis-N-[3,5-bis(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(3-iodobenzyl)-cyclohexanecarboxamide; and

cis-N-[1-(4-bromophenyl)ethyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention are of Formula (I) wherein the compound is selected from the group consisting of:

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methylbenzyl)-cyclohexanecarboxamide;

cis-N-(3-chlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[(1R)-1-(3-methoxyphenyl)ethyl]cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methoxybenzyl)-

cyclohexanecarboxamide;

cis-N-(2,4-dichlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(3,5-dichlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-N-(4-bromobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

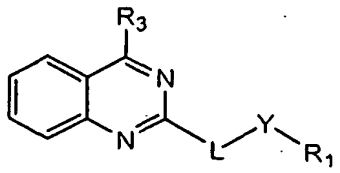
cis-N-(2-bromobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexanecarboxamide;

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[4-(trifluoromethoxy)-benzyl]cyclohexanecarboxamide; and

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[(1S)-1-(4-methylphenyl)ethyl]cyclohexanecarboxamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, Q is Formula (**IIb**) and can be represented by the following formula:



or a pharmaceutically acceptable salt, hydrate or solvate thereof, wherein R_3, L, Y, and R_1 are as described herein, *supra* and *infra*.

In some embodiments of the present invention, R_1 is selected from the group consisting of:

R_1 is selected from the group consisting of:

C_{1-8} alkyl, and

C_{1-8} alkyl substituted by substituent(s) independently selected from the group consisting of:

•carbocyclic aryl,

•carbocyclic aryl substituted by substituent(s) independently selected from the group consisting of:

••halogen,

••C_{1-5} alkyl, and

••C_{1-5} alkoxy,

R_3 is C_{1-5} alkyl;

L is Formula (XIII); wherein R_5 and R_6 are both hydrogen; A and B are both a single bond;

Y is $-C(O)NR_7-$;

wherein carbocyclic aryl is phenyl; and

halogen is fluoro, chloro, bromo, or iodo;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_3 is isopropyl; and Y is -C(O)NH-; or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments, compounds of the present invention is:

cis-N-(3-chlorobenzyl)-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexanecarboxamide;

or a pharmaceutically acceptable salt, hydrate or solvate thereof.

In some embodiments of the present invention, R_1 is selected from hydrogen, $-CO_2{}^tBu$, or $-CO_2Bn$ (Bn is a benzyl group);

R_2 is $-N(R_{2a})(R_{2b})$, wherein R_{2a} is hydrogen or C_{1-5} alkyl; R_{2b} is C_{1-5} alkyl;

R_3 is C_{1-5} alkyl;

R_4 is $-N(R_{4a})(R_{4b})$ wherein R_{4a} is hydrogen or C_{1-5} alkyl; R_{4b} is C_{1-5} alkyl;

L is selected from Formula (V), (VIII), (IX), (XIII), (XVI), or (XVII);

X_1, X_2, X_3 and X_4 are independently selected from the group consisting of hydrogen, halogen, and C_{1-4} alkyl; provided that at least one substituent selected from the group consisting of X_1, X_2, X_3 and X_4 is not hydrogen; and

Y is a single bond;

or a pharmaceutically acceptable salt, hydrate, or solvate thereof.

One aspect of the present invention pertains to pharmaceutical compositions comprising at least one compound, as described herein, in combination with a pharmaceutically acceptable carrier.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of improving memory function, sleeping and arousal, anxiety, depression, mood disorders, seizure, obesity, diabetes, including bulimia, anorexia, mental disorders including manic depression, schizophrenia, delirium, appetite and eating disorders, cardiovascular disease, hypertension, dyslipidemia, myocardial infarction, binge eating disorders dementia, stress, cognitive disorders, attention deficit disorder, substance abuse disorders and dyskinesias including Parkinson's disease, epilepsy, and addiction comprising administering to an individual suffering from the condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of an eating disorder, obesity or an obesity related disorder comprising administering to an individual suffering from the condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods for the prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy comprising administering to an individual suffering from the condition a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition.

One aspect of the present invention pertains to compounds of the present invention, as described herein, or a pharmaceutical composition thereof, for use in a method of treatment of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as described herein, or a pharmaceutical composition thereof, for use in a method of prophylaxis or treatment of an eating disorder, obesity or an obesity related disorder of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as

described herein, or a pharmaceutical composition thereof, for use in a method of prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy of the human or animal body by therapy.

One aspect of the present invention pertains to compounds of the present invention, as described herein, for the manufacture of a medicament for use in the prophylaxis or treatment of an eating disorder, obesity or obesity related disorders.

One aspect of the present invention pertains to compounds of the present invention, as described herein, for the manufacture of a medicament for use in the prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy.

One aspect of the present invention pertains to methods of decreasing food intake of an individual comprising administering to the individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of inducing satiety in an individual comprising administering to said individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of controlling or reducing weight gain in an individual comprising administering to said individual a therapeutically effective amount of a compound, as described herein, or a pharmaceutical composition thereof.

One aspect of the present invention pertains to methods of modulating a MCH receptor in an individual comprising contacting the receptor with a compound, as described herein. In some embodiments, the compound is an antagonist. In some embodiments, the modulation of the MCH receptor is for the prophylaxis or treatment of an eating disorder, obesity or obesity related disorder. In some embodiments, the modulation of the MCH receptor reduces food intake of the individual. In some embodiments, the modulation of the MCH receptor induces satiety in the individual. In some embodiments, the modulation of the MCH receptor controls or reduces weight gain of the individual. In some embodiments, the modulation of the MCH receptor is for prophylaxis or treatment of anxiety, depression, schizophrenia, addiction, or epilepsy.

In some embodiments, the individual is a mammal.

In some embodiments, the mammal is a human.

In some embodiments, the human has a body mass index of about 18.5 to about 45. In some embodiments, the human has a body mass index of about 25 to about 45. In some embodiments, the human has a body mass index of about 30 to about 45. In some embodiments, the human has a body mass index of about 35 to about 45.

One aspect of the present invention pertains to methods of producing a pharmaceutical composition comprising admixing a compound, as described herein, and a pharmaceutically acceptable carrier.

One embodiment of the invention includes any compound of the invention which selectively binds an MCH receptor, such selective binding is preferably demonstrated by a Ki for one or more other GPCR(s), preferably NPY, being at least 10-fold greater than the Ki for any particular MCH receptor, preferable MCHR1.

As used herein, the term "alkyl" is intended to denote hydrocarbon compounds including straight chain and branched chain, including for example but not limited to methyl, ethyl, n-propyl, isopropyl, n-butyl, sec-butyl, tert-butyl, n-pentyl, isopentyl, tert-pentyl, n-hexyl, and the like.

The term "alkoxy" is intended to denote substituents of the formula -O-alkyl.

At various places in the present specification substituents of compounds of the invention are disclosed in groups. It is specifically intended that the invention include each and every individual subcombination of the members of such groups.

G-protein coupled receptors (GPCRs) represent a major class of cell surface receptors with which many neurotransmitters interact to mediate their effects. GPCRs are predicted to have seven membrane-spanning domains and are coupled to their effectors via G-proteins linking receptor activation with intracellular biochemical sequelae such as stimulation of adenylyl cyclase. Melanin Concentrating Hormone (MCH), a cyclic peptide, has been identified as the endogenous ligand of the orphan G-protein coupled receptor SLC-1. See, for example, Shimomura et al., Biochem. Biophys. Res. Commun. 261, 622-26 (1999). Studies have indicated that MCH acts as a neurotransmitter/modulator/regulator to alter a number of behavioral responses.

Mammalian MCH (19 amino acids) is highly conserved between rat, mouse, and human,

exhibiting 100% amino acid identity, but its physiological roles are less clear. MCH has been reported to participate in a variety of processes including feeding, water balance, energy metabolism, general arousal/attention state, memory and cognitive functions, and psychiatric disorders. For reviews, see 1. Baker, Int. Rev. Cytol. 126:1-47 (1991); 2. Baker, TEM 5:120-126 (1994); 3. Nahon, Critical Rev. in Neurobiol 221:221-262, (1994); 4. Knigge et al., Peptides 18(7):1095-1097, (1996). The role of MCH in feeding or body weight regulation is supported by Qu et al., Nature 380:243-247, (1996), demonstrating that MCH is over expressed in the hypothalamus of ob/ob mice compared with ob/+mice, and that fasting further increased MCH mRNA in both obese and normal mice during fasting. MCH also stimulated feeding in normal rats when injected into the lateral ventricles as reported by Rossi et al., Endocrinology 138:351-355, (1997). MCH also has been reported to functionally antagonize the behavioral effects of α-MSH; see: Miller et al., Peptides 14:1-10, (1993); Gonzalez et al, Peptides 17:171-177, (1996); and Sanchez et al., Peptides 18:3933-396, (1997). In addition, stress has been shown to increase POMC mRNA levels while decreasing the MCH precursor preproMCH (ppMCH) mRNA levels; Presse et al., Endocrinology 131:1241-1250, (1992). Thus MCH can serve as an integrative neuropeptide involved in the reaction to stress, as well as in the regulation of feeding and sexual activity; Baker, Int. Rev. Cytol. 126:1-47, (1991); Knigge et al., Peptides 17:1063-1073, (1996).

The localization and biological activities of MCH peptide suggest that the modulation of MCH receptor activity can be useful in a number of therapeutic applications. MCH is expressed in the lateral hypothalamus, a brain area implicated in the regulation of thirst and hunger: Grillon et al., Neuropeptides 31:131-136, (1997); recently orexins A and B, which are potent orexigenic agents, have been shown to have very similar localization to MCH in the lateral hypothalamus; Sakurai et al., Cell 92:573-585 (1998). MCH mRNA levels in this brain region are increased in rats after 24 hours of food-deprivation; Herve and Fellmann, Neurpeptides 31:237-242 (1997); after insulin injection, a significant increase in the abundance and staining intensity of MCH immunoreactive perikarya and fibres was observed concurrent with a significant increase in the level of MCH mRNA; Bahjaoui-Bouhaddi et al., Neuropeptides 24:251-258, (1994). Consistent with the ability of MCH to stimulate feeding in rats; Rossi et al., Endocrinology 138:351-355, (1997); is the observation that

MCH mRNA levels are upregulated in the hypothalami of obese ob/ob mice; Qu et al., Nature 380:243-247, (1996); and decreased in the hypothalami of rats treated with leptin, whose food intake and body weight gains are also decreased; Sahu, Endocrinology 139:795-798, (1998). MCH appears to act as a functional antagonist of the melanocortin system in its effects on food intake and on hormone secretion within the HPA (hypothalamopituitary/adrenal axis); Ludwig et al., Am. J. Physiol. Endocrinol. Metab. 274:E627-E633, (1998). Together these data suggest a role for endogenous MCH in the regulation of energy balance and response to stress, and provide a rationale for the development of specific compounds acting at MCH receptors for use in the treatment of obesity and stress-related disorders.

Accordingly, a MCH receptor antagonist is desirable for the prophylaxis or treatment of obesity or obesity related disorders. An obesity related disorder is a disorder that has been directly or indirectly associated to obesity, such as, type II diabetes, syndrome X, impaired glucose tolerance, dyslipidaemia, hypertension, coronary heart disease and other cardiovascular disorders including atherosclerosis, insulin resistance associated with obesity and psoriasis, for treating diabetic complications and other diseases such as polycystic ovarian syndrome (PCOS), certain renal diseases including diabetic nephropathy, glomerulonephritis, glomerular sclerosis, nephrotic syndrome, hypertensive nephrosclerosis, end-stage renal diseases and microalbuminuria as well as certain eating disorders.

In species studied to date, a major portion of the neurons of the MCH cell group occupies a rather constant location in those areas of the lateral hypothalamus and subthalamus where they lie and may be a part of some of the so-called "extrapyramidal" motor circuits. These involve substantial striato- and pallidofugal pathways involving the thalamus and cerebral cortex, hypothalamic areas, and reciprocal connections to subthalamic nucleus, substantia nigra, and mid-brain centers; Bittencourt et al., J. Comp. Neurol. 319:218-245, (1992). In their location, the MCH cell group may offer a bridge or mechanism for expressing hypothalamic visceral activity with appropriate and coordinated motor activity. Clinically it can be of some value to consider the involvement of this MCH system in movement disorders, such as Parkinson's disease and Huntingdon's Chorea in which extrapyramidal circuits are known to be involved.

Human genetic linkage studies have located authentic hMCH loci on chromosome 12 (12q23-24) and the variant hMCH loci on chromosome 5 (5q12-13) (Pedeutour et al., 1994). Locus 12q23-24 coincides with a locus to which autosomal dominant cerebellar ataxia type II (SCA2) has been mapped; Auburger et al., Cytogenet. Cell. Genet. 61:252-256, (1992); Twells et al., Cytogenet. Cell. Genet. 61:262-265, (1992). This disease comprises neurodegenerative disorders, including an olivopontocerebellar atrophy. Furthermore, the gene for Darier's disease, has been mapped to locus 12q23-24; Craddock et al., Hum. Mol. Genet. 2:1941-1943, (1993). Dariers' disease is characterized by abnormalities I keratinocyte adhesion and mental illnesses in some families. In view of the functional and neuroanatomical patterns of the MCH neural system in the rat and human brains, the MCH gene can represent a good candidate for SCA2 or Darier's disease. Interestingly, diseases with high social impact have been mapped to this locus. Indeed, the gene responsible for chronic or acute forms of spinal muscular atrophies has been assigned to chromosome 5q12-13 using genetic linkage analysis; Melki et al., Nature (London) 344:767-768, (1990); Westbrook et al., Cytogenet. Cell. Genet. 61:225-231, (1992). Furthermore, independent lines of evidence support the assignment of a major schizophrenia locus to chromosome 5q11.2-13.3; Sherrington et al., Nature (London) 336:164-167, (1988); Bassett et al., Lancet 1:799-801, (1988); Gilliam et al., Genomics 5:940-944, (1989). The above studies suggest that MCH can play a role in neurodegenerative diseases and disorders of emotion.

Additional therapeutic applications for MCH-related compounds are suggested by the observed effects of MCH in other biological systems. For example, MCH can regulate reproductive functions in male and female rats. MCH transcripts and MCH peptide were found within germ cells in testes of adult rats, suggesting that MCH can participate in stem cell renewal and/or differentiation of early spermatocytes; Hervieu et al., Biology of Reduction 54:1161-1172, (1996). MCH injected directly into the medial preoptic area (MPOA) or ventromedial nucleus (VMN) stimulated sexual activity in female rats; Gonzalez et al., Peptides 17:171-177, (1996). In ovariectomized rats primed with estradiol, MCH stimulated luteinizing hormone (LH) release while anti-MCH antiserum inhibited LH release; Gonzalez et al., Neuroendocrinology 66:254-262, (1997). The zona incerta, which contains a large population of MCH cell bodies, has previously been identified as a regulatory

site for the pre-ovulatory LH surge; MacKenzie et al., Neuroendocrinology 39:289-295, (1984). MCH has been reported to influence release of pituitary hormones including ACTH and oxytocin. MCH analogues can also be useful in treating epilepsy. In the PTZ seizure model, injection of MCH prior to seizure induction prevented seizure activity in both rats and guinea pigs, suggesting that MCH-containing neurons can participate in the neural circuitry underlying PTZ-induced seizure; Knigge and Wagner, Peptides 18:1095-1097, (1997). MCH has also been observed to affect behavioral correlates of cognitive functions. MCH treatment hastened extinction of the passive avoidance response in rats; McBride et al., Peptides 15:757-759, (1994); raising the possibility that MCH receptor antagonists can be beneficial for memory storage and/or retention. A possible role for MCH in the modulation or perception of pain is supported by the dense innervation of the periaqueductal grey (PAG) by MCH-positive fibers. Finally, MCH can participate in the regulation of fluid intake. ICV infusion of MCH in conscious sheep produced diuretic, natriuretic, and kaliuretic changes in response to increased plasma volume; Parkes, J. Neuroendocrinol. 8:57-63, (1996). Together with anatomical data reporting the presence of MCH in fluid regulatory areas of the brain, the results indicate that MCH can be an important peptide involved in the central control of fluid homeostasis in mammals.

In a recent citation MCHR1 antagonists surprisingly demonstrated their use as an anti-depressants and/or anti-anxiety agents. MCHR1 antagonists have been reported to show antidepressant and anxiolytic activities in rodent models, such as, social interaction, forced swimming test and ultrasonic vocalization. Therefore, MCHR1 antagonists could be useful to independently treat subjects with depression and/or anxiety. Also, MCHR1 antagonists could be useful to treat subjects that suffer from depression and/or anxiety and obesity.

This invention provides a method of treating an abnormality in a subject wherein the abnormality is alleviated by decreasing the activity of a mammalian MCH1 receptor which comprises administering to the subject an amount of a compound which is a mammalian MCH1 receptor antagonist effective to treat the abnormality. In separate embodiments, the abnormality is a regulation of a steroid or pituitary hormone disorder, an epinephrine release disorder, an anxiety disorder, genta gastrointestinal disorder, a cardiovascular disorder, an electrolyte balance disorder, hypertension,

diabetes, a respiratory disorder, asthma, a reproductive function disorder, an immune disorder, an endocrine disorder, a musculoskeletal disorder, a neuroendocrine disorder, a cognitive disorder, a memory disorder, a sensory modulation and transmission disorder, a motor coordination disorder, a sensory integration disorder, a motor integration disorder, a dopaminergic function disorder, a sensory transmission disorder, an olfaction disorder, a sympathetic innervation disorder, an affective disorder, a stress-related disorder, a fluid-balance disorder, a seizure disorder, pain, psychotic behavior, morphine tolerance, opiate addiction or migraine.

Compositions of the invention can conveniently be administered in unit dosage form and can be prepared by any of the methods well known in the pharmaceutical art, for example, as described in *Remington's Pharmaceutical Sciences* (Mack Pub. Co., Easton, PA, 1980).

The compounds of the invention can be employed as the sole active agent in a pharmaceutical or can be used in combination with other active ingredients which could facilitate the therapeutic effect of the compound.

Compounds of the present invention or a solvate or physiologically functional derivative thereof can be used as active ingredients in pharmaceutical compositions, specifically as a MCH receptor antagonists. By the term "active ingredient" is defined in the context of a "pharmaceutical composition" and shall mean a component of a pharmaceutical composition that provides the primary pharmaceutical benefit, as opposed to an "inactive ingredient" which would generally be recognized as providing no pharmaceutical benefit. The term "pharmaceutical composition" shall mean a composition comprising at one active ingredient and at least one ingredient that is not an active ingredient (for example and not limitation, a filler, dye, or a mechanism for slow release), whereby the composition is amenable to use for a specified, efficacious outcome in a mammal (for example, and not limitation, a human).

Pharmaceutical compositions, including, but not limited to, pharmaceutical compositions, comprising at least one compound of the present invention and/or an acceptable salt or solvate thereof (*e.g.*, a pharmaceutically acceptable salt or solvate) as an active ingredient combined with at least one carrier or excipient (*e.g.*, pharmaceutical carrier or excipient) can be used in the treatment of clinical conditions for which a MCH receptor antagonist is indicated. At least one compound of the present

invention can be combined with the carrier in either solid or liquid form in a unit dose formulation. The pharmaceutical carrier must be compatible with the other ingredients in the composition and must be tolerated by the individual recipient. Other physiologically active ingredients can be incorporated into the pharmaceutical composition of the invention if desired, and if such ingredients are compatible with the other ingredients in the composition. Formulations can be prepared by any suitable method, typically by uniformly mixing the active compound(s) with liquids or finely divided solid carriers, or both, in the required proportions, and then, if necessary, forming the resulting mixture into a desired shape.

Conventional excipients, such as binding agents, fillers, acceptable wetting agents, tabletting lubricants, and disintegrants can be used in tablets and capsules for oral administration. Liquid preparations for oral administration can be in the form of solutions, emulsions, aqueous or oily suspensions, and syrups. Alternatively, the oral preparations can be in the form of dry powder that can be reconstituted with water or another suitable liquid vehicle before use. Additional additives such as suspending or emulsifying agents, non-aqueous vehicles (including edible oils), preservatives, and flavorings and colorants can be added to the liquid preparations. Parenteral dosage forms can be prepared by dissolving the compound of the invention in a suitable liquid vehicle and filter sterilizing the solution before filling and sealing an appropriate vial or ampoule. These are just a few examples of the many appropriate methods well known in the art for preparing dosage forms.

It is noted that when the MCH receptor antagonists are utilized as active ingredients in a pharmaceutical composition, these are not intended for use only in humans, but in other non-human mammals as well. Indeed, recent advances in the area of animal health-care mandate that consideration be given for the use of MCH receptor antagonists for the treatment of obesity in domestic animals (*e.g.*, cats and dogs), and MCH receptor antagonists in other domestic animals where no disease or disorder is evident (*e.g.*, food-oriented animals such as cows, chickens, fish, etc.). Those of ordinary skill in the art are readily credited with understanding the utility of such compounds in such settings.

Pharmaceutically acceptable salts of the compounds of the invention can be prepared by reacting the free acid or base forms of these compounds with the appropriate base or acid in water, in

an organic solvent, or in a mixture of the two; generally, nonaqueous media like ether, ethyl acetate, ethanol, isopropanol, dioxane, or acetonitrile are preferred. For instance, when the compound (I) possesses an acidic functional group, it can form an inorganic salt such as an alkali metal salt (e.g., sodium salt, potassium salt, etc.), an alkaline earth metal salt (e.g. calcium salt, magnesium salt, barium salt, etc.), and an ammonium salt. When the compound (I) possesses a basic functional group, it can form an inorganic salt (e.g., hydrochloride, sulfate, phosphate, hydrobromate, etc.) or an organic salt (e.g., acetate, maleate, fumarate, succinate, methanesulfonate, p-toluenesulfonate, citrate, tartrate, etc.).

When a compound of the invention contains optical isomers, stereoisomers, regio isomers, rotational isomers, a single substance and a mixture of them are included as a compound of the invention. For example, when a chemical formula is represented as showing no stereochemical designation(s), such as Formula IV, then all possible stereoisomer, optical isomers and mixtures thereof are considered within the scope of that formula. Accordingly, Formula V, specifically designates the cis relationship between the two amino groups on the cyclohexyl ring and therefore this formula is also fully embraced by Formula IV.

The novel substituted quinazolines of the present invention can be readily prepared according to a variety of synthetic manipulations, all of which would be familiar to one skilled in the art. Preferred methods for the preparation of compounds of the present invention include, but are not limited to, those described in Scheme 1-6.

The common intermediate (F) of the novel substituted quinazolines can be prepared as shown in Scheme 1. Commercially available 1*H*,3*H*-quinazoline-2,4-dione (A) is converted to 2,4-dihalo-quinazoline (B) by a halogenating agent with or without a base (wherein X is halogen such as chloro, bromo, or iodo). The halogenating agent includes phosphorous oxychloride ($POCl_3$), phosphorous oxybromide ($POBr_3$), or phosphorus pentachloride (PCl_5). The base includes a tertiary amine (preferably *N*,*N*-diisopropylethylamine, etc.) or an aromatic amine (preferably *N*,*N*-dimethylaniline, etc.). Reaction temperature ranges from about 100°C to 200°C, preferably about 140°C to 180°C.

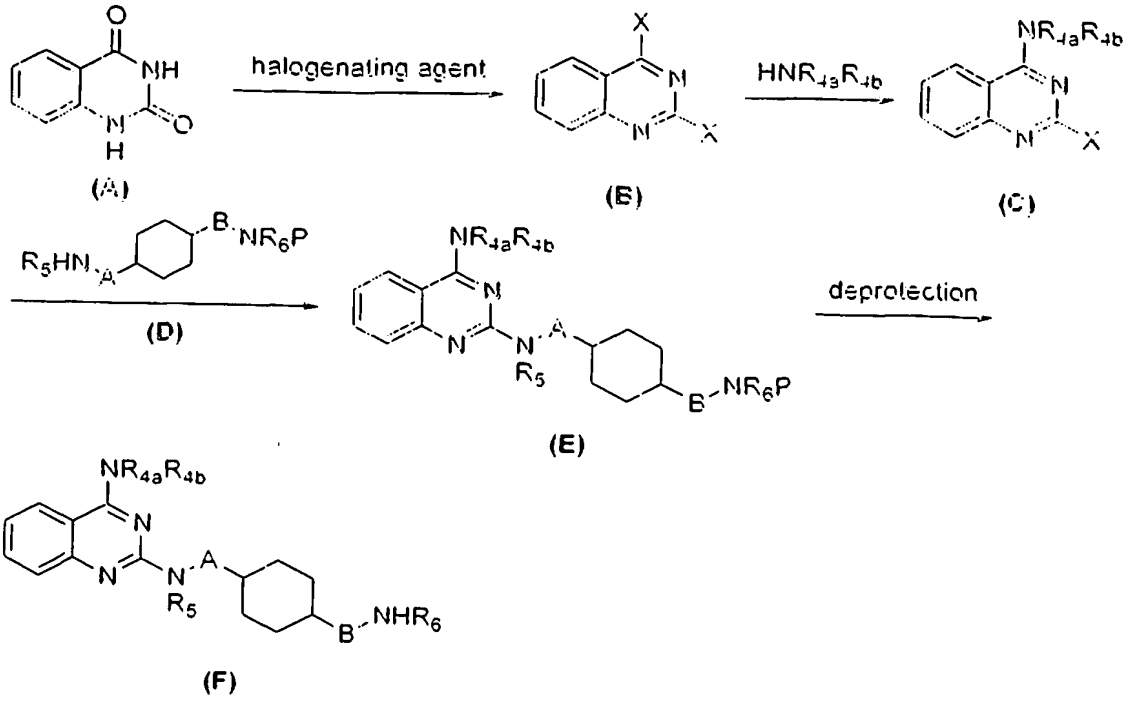
The halogen of 4-position of 2,4-dihalo-quinazoline (B) is selectively substituted by a primary

or secondary amine ($HNR_{4a}R_{4b}$, wherein R_{4a} and R_{4b} are as defined above) with or without a base in an inert solvent to provide the corresponding 4-substitued amino adduct (C). The base includes an alkali metal carbonate (preferably sodium carbonate or potassium carbonate, etc.), an alkali metal hydroxide (preferably sodium hydroxide, etc.), or a tertiary amine (preferably *N,N*-diisopropylethylamine, triethylamine, or *N*-methylmorpholine, etc.). The inert solvent includes lower alkyl alcohol solvents (preferably methanol, ethanol, 2-propanol, or butanol, etc.), ethereal solvents (preferably tetrahydrofuran or dioxane, etc.), or amide solvents (preferably *N,N*-dimethylformamide or 1-methyl-pyrrolidin-2-one, etc.). Reaction temperature ranges from about 0°C to 200°C, preferably about 10°C to 150°C.

In turn, this is substituted by the mono-protected diamine (D) , wherein R_5, R_6, A, and B are as defined above and P is a protective group, with or without a base in an inert solvent to provide 2,4-disubstituted amino quinazoline (E). The base includes an alkali metal carbonate (preferably sodium carbonate or potassium carbonate, etc.), an alkali metal hydroxide (preferably sodium hydroxide, etc.), or a tertiary amine (preferably *N,N*-diisopropylethylamine, triethylamine, or *N*-methylmorpholine, etc.). The inert solvent includes lower alkyl alcohol solvents (preferably methanol, ethanol, 2-propanol, or butanol, etc.) or amide solvents (preferably *N,N*-dimethylformamide or 1-methyl-pyrrolidin-2-one, etc.). Reaction temperature ranges from about 50°C to 200°C, preferably about 80°C to 150°C. Also this reaction can be carried out under microwave conditions.

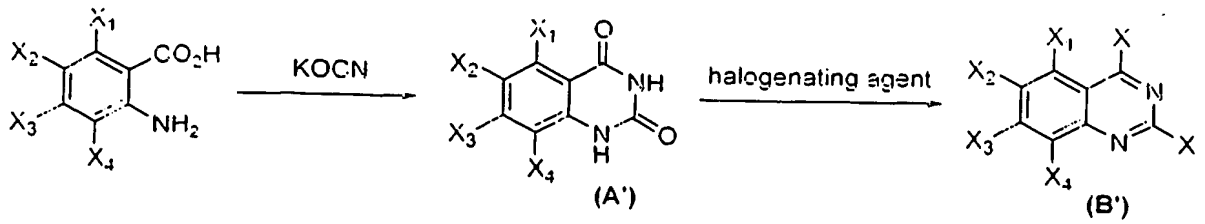
Representative protecting groups suitable for a wide variety of synthetic transformations are disclosed in Greene and Wuts, *Protective Groups in Organic Synthesis*, second edition, John Wiley & Sons, New York, 1991, the disclosure of which is incorporated herein by reference in its entirety. The deprotection of the protective group leads to the common intermediate (F) of the novel substituted quinazolines.

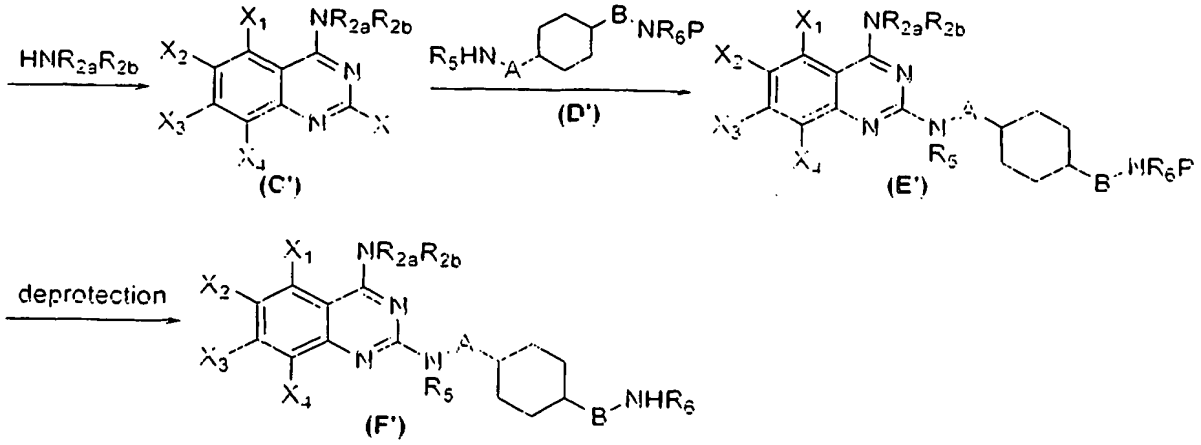
Scheme 1



In another method, compounds of the present invention can be prepared wherein the aromatic ring is further substituted such as when Q is Formula (IIa). This method utilizes the conversion of an appropriately substituted 2-amino benzoic acid to the corresponding substituted 1*H*,3*H*-quinazoline-2,4-dione (A'); wherein X_1, X_2, X_3 and X_4 have the same meaning as described herein. Suitable conditions for the conversion to the substituted 1*H*,3*H*-quinazoline-2,4-dione (A') are known in the art, for example, potassium cyanate, sodium cyanate, urea, and the like. In a similar method as described above in Scheme 1, the substituted 1*H*,3*H*-quinazoline-2,4-dione (A') can be converted into useful intermediate (F') as described generally in Scheme 1.1.

Scheme 1.1





In a similar manner as described herein for intermediate (F), common intermediate (F') can be converted into novel quinazolines of Formula (I), wherein one or more of positions 5, 6, 7 or 8 on the quinazoline ring is/are substituted.

The conversion of the common intermediate (F) to the novel substituted quinazolines (G-I) of the present invention is outlined in Scheme 2.

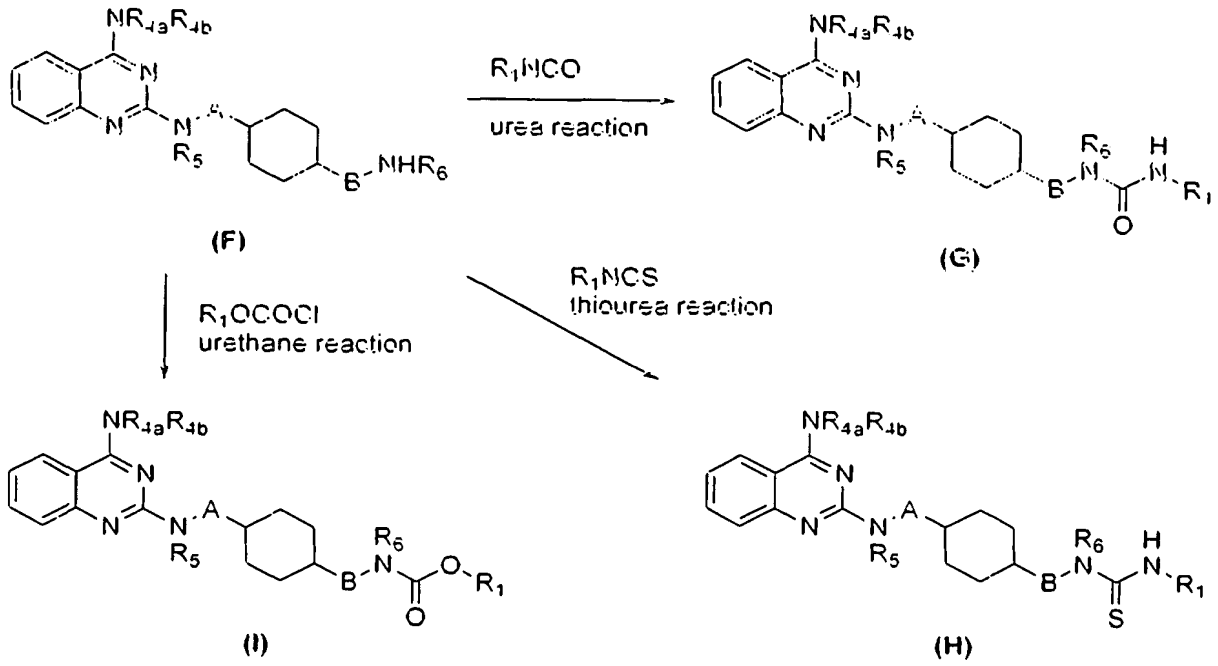
The novel urea (G) of the present invention can be obtained by urea reaction using an isocyanate (R_1NCO) in an inert solvent with or without a base. The base includes an alkali metal carbonate (preferably sodium carbonate or potassium carbonate, etc.), an alkali metal hydrogencarbonate (preferably sodium hydrogencarbonate or potassium hydrogencarbonate, etc.), an alkali hydroxide (preferably sodium hydroxide or potassium hydroxide, etc.), a tertiary amine (preferably *N,N*-diisopropylethylamine, triethylamine, or *N*-methylmorpholine, etc.), or an aromatic amine (preferably pyridine or imidazole, etc.). The inert solvent includes lower halocarbon solvents (preferably dichloromethane, dichloroethane, or chloroform, etc.), ethereal solvents (preferably tetrahydrofuran or dioxane), aromatic solvents (preferably benzene or toluene, etc.), or polar solvents (preferably *N,N*-dimethylformamide or dimethyl sulfoxide, etc.). Reaction temperature ranges from about -20°C to 120°C, preferably about 0°C to 100°C.

The amine (F) is reacted with a isothiocyanate (R_1NCS) in an inert solvent with or without a base to provide the novel thiourea (H) of the present invention. The base includes an alkali metal

carbonate (preferably sodium carbonate or potassium carbonate, etc.), an alkali metal hydrogencarbonate (preferably sodium hydrogencarbonate or potassium hydrogencarbonate, etc.), an alkali hydroxide (preferably sodium hydroxide or potassium hydroxide, etc.), a tertiary amine (preferably *N*,*N*-diisopropylethylamine, triethylamine, or *N*-methylmorpholine, etc.), or an aromatic amine (preferably pyridine or imidazole, etc.). The inert solvent includes lower halocarbon solvents (preferably dichloromethane, dichloroethane, or chloroform, etc.), ethereal solvents (preferably tetrahydrofuran or dioxane), aromatic solvents (preferably benzene or toluene, etc.), or amide solvents (preferably *N*,*N*-dimethylformamide, etc.). Reaction temperature ranges from about -20°C to 120°C, preferably about 0°C to 100°C.

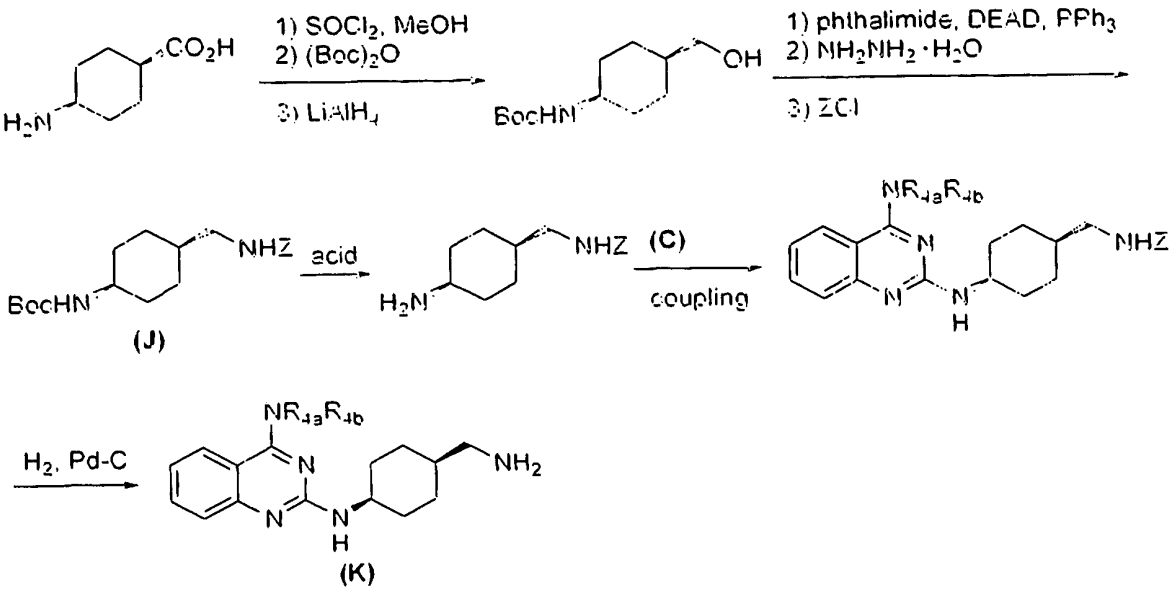
The novel urethane (I) of the present invention can be obtained by urethane reaction using R_1OCOCl, wherein X is halogen such as chloro, bromo, or iodo, in an inert solvent with or without a base. The base includes an alkali metal carbonate (preferably sodium carbonate or potassium carbonate, etc.), an alkali metal hydrogencarbonate (preferably sodium hydrogencarbonate or potassium hydrogencarbonate, etc.), an alkali hydroxide (preferably sodium hydroxide or potassium hydroxide, etc.), a tertiary amine (preferably *N*,*N*-diisopropylethylamine, triethylamine, or *N*-methylmorpholine, etc.), or an aromatic amine (preferably pyridine, imidazole, or poly-(4-vinylpyridine), etc.). The inert solvent includes lower halocarbon solvents (preferably dichloromethane, dichloroethane, or chloroform, etc.), ethereal solvents (preferably tetrahydrofuran or dioxane), aromatic solvents (preferably benzene or toluene, etc.), or polar solvents (preferably *N*,*N*-dimethylformamide or dimethyl sulfoxide, etc.). Reaction temperature ranges from about -20°C to 120°C, preferably about 0°C to 100°C.

Scheme 2



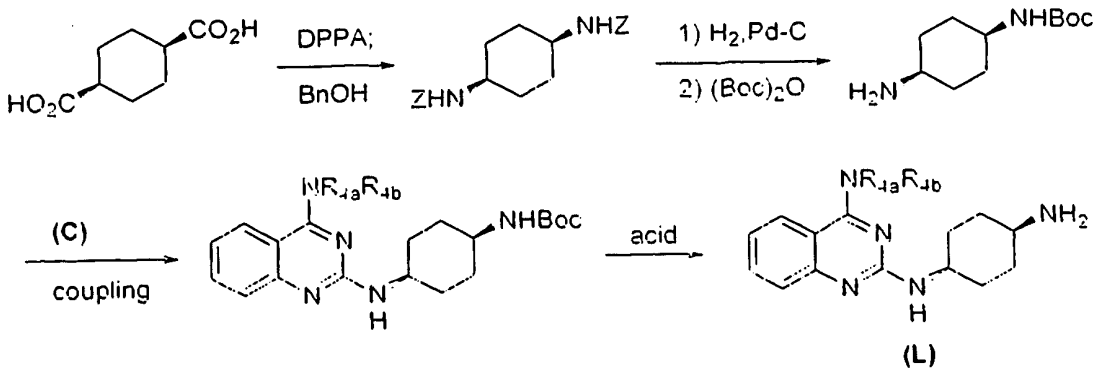
Compounds of Formula (K) can be prepared as shown in Scheme 3. [4-(Benzyloxycarbonylamino-methyl)-cyclohexyl]-carbamic acid *tert*-butyl ester (J) is synthesized by the method which is described in WO 01/72710. The deprotection of Boc-group is achieved by an acid to give the amine. The coupling of the amine with quinazoline core (C), which is synthesized as scheme 1, gives 2,4-disubstituted amino quinazoline. The deprotection of Z-group is achieved by hydrogen reduction to give compounds of Formula (K).

Scheme 3



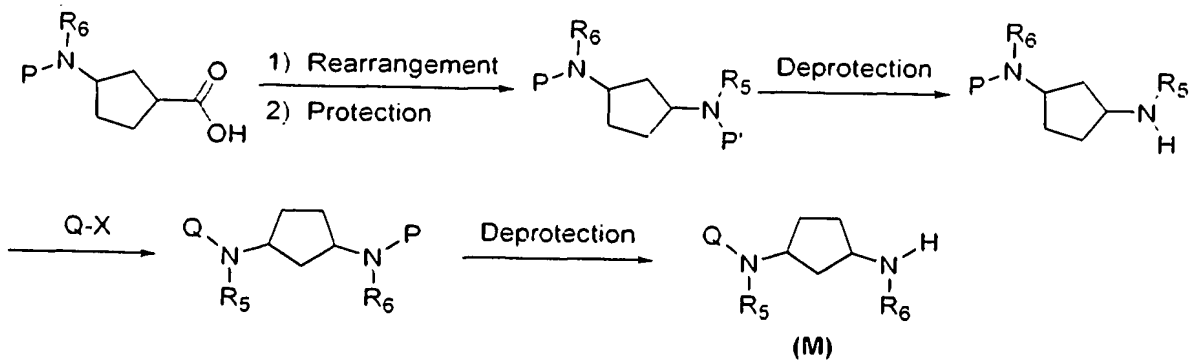
Compounds of Formula (L) can be prepared as shown in Scheme 4. The dicarboxylic acid of commercially available *cis*-cyclohexane-1,4-dicarboxylic acid is transformed to dibenzyl carbamate by curtius rearrangement. The deprotection of Z-group is achieved by hydrogen reduction to give the diamine. The mono-protection of the diamine can be achieved by the method described in *Synthetic communications*, **20**, 2559-2564 (1990). The coupling of the amine with quinazoline core (C), which is synthesized as scheme 1, gives 2,4-disubstituted amino quinazoline. The deprotection of Boc-group is achieved by an acid to give the amine (L).

Scheme 4



Compounds of Formula (M) can be prepared as shown in Scheme 5. This method utilizes 1-protected aminocyclopentane-3-carboxylic acids. The 1-protected aminocyclopentane-3-carboxylic acids that can be used are either commercially available or prepared using methods known in the art. One particularly useful compound is (1*R*,3*S*)-*N*-Boc-1-aminocyclopentane-3-carboxylic acid. The 1-protected aminocyclopentane-3-carboxylic acid can be converted to the orthogonally protected 1,3-diaminocyclopentane by an arrangement, such as, the Curtius, Hoffman, Lossen, Schmidt, and the like; and subsequently protected. In the Curtius Rearrangement method, the protected amine is generated by subjecting the isocyanate intermediate with an alcohol to give a useful urethane protection group, such as, Boc, Cbz, and the like. In a subsequent step, one protecting group is removed and allowed to react in a similar manner as described herein with intermediate (C) or (C'), depicted as Q-X in Scheme 5. The second protecting group is removed to achieve amine (M).

Scheme 5

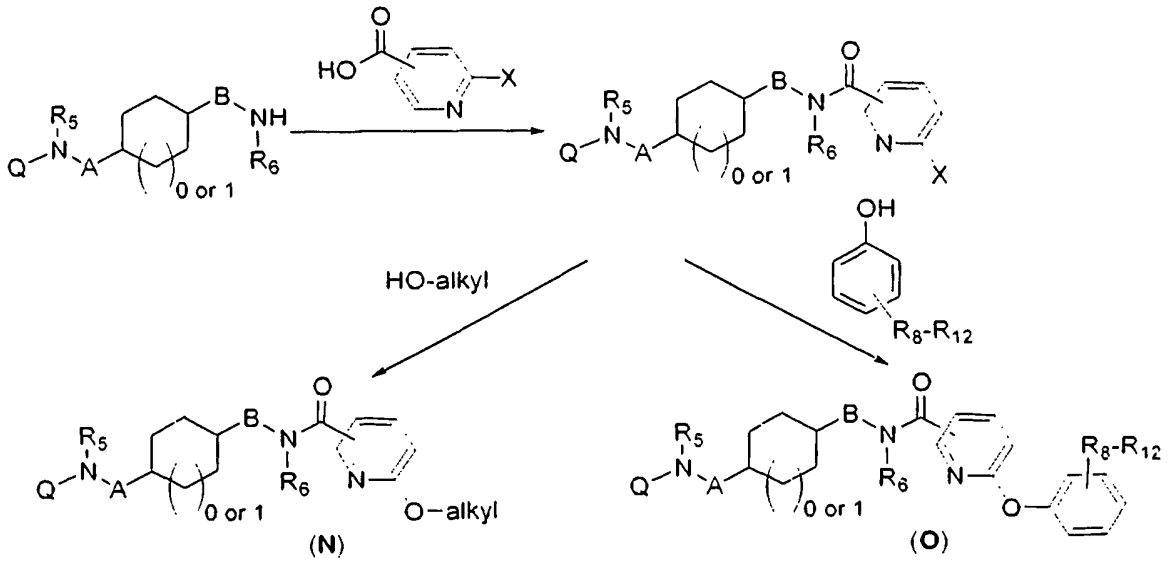


In a similar manner as described herein for intermediate (F), compound (M) can be converted into novel quinazolines of Formula (I) using methods described herein.

Novel compounds of Formula (N) of the present invention can be prepared as shown in Scheme 6. This method can utilize any of the intermediate amines, such as, amines (F), (F'), (K), (L), and (M). The amine is coupled to a 2-halopyridine carboxylic acid or similar compound, such as an acid halide, to give the corresponding 2-halopyridyl product. Suitable coupling methods are known in

the art, such as, DCC, EDC, PyBoP, HATU, HBTU, BOP, and the like. In a subsequent step, the 2-halopyridyl product is converted to compounds of Formula (N) by treatment with an appropriate alcohol, under basic conditions, such as, NaH, KH, Cs_2CO_3, K_2CO_3, Na_2CO_3 and the like. In some circumstances, a metal alkoxide can be used, such as, sodium alkoxide, potassium alkoxide and the like. The alcohol or metal alkoxide can be either substituted or unsubstituted. In a similar manner, novel compounds of Formula (O) can be prepared using a substituted or unsubstituted phenol, wherein R_8-R_{12} represent various substitutions on the phenyl ring, including but not limited those substitutions described herein.

Scheme 6



Examples

The compounds of the invention and their synthesis are further illustrated by the following examples. The following examples are provided to further define the invention without, however, limiting the invention to the particulas of these examples. "Ambient temperature" as referred to in the following example is meant to indicate a temperature falling between 0 °C and 40 °C. The following compounds are named by Beilstein Auto Nom Version 4.0, CS Chem Draw Ultra Version 6.0, CS

compounds are named by Beilstein Auto Nom Version 4.0, CS Chem Draw Ultra Version 6.0, CS Chem Draw Ultra Version 6.0.2, Chem Draw Ultra Version 7.0.1, or ACD Name Version 7.0.

Abbreviations used in the instant specification, particularly the Schemes and Examples, are as follows:

^{1}H NMR : proton nuclear magnetic resonance spectrum

APCI : atmospheric pressure chemical ionization

Boc : *t*-butoxycarbonyl

$(Boc)_2O$: di-tertiary-butyl dicarbonate

BuOH : butanol

$CDCl_3$: deuterated chloroform

CH_2Cl_2 : dichloromethane

$CHCl_3$: chloroform

CI : chemical ionization

DIEA : diisopropylethylamine

DMA : *N,N*-dimethylacetamide

DMSO : dimethyl sulfoxide

EI : electron ionization

ESI : electrospray ionization

Et_2O : diethyl ether

EtOAc : acetic acid ethyl ester

EtOH : ethanol

FAB : fast atom bombardment

HATU : *O*-(7-azabenzotriazol-1-yl)-*N,N,N',N'*-tetramethyluronium-hexafluorophosphate

H_2SO_4 : sulfuric acid

HCl : hydrogen chloride

K_2CO_3 : potassium carbonate

Me_2NH : dimethylamine

$MeNH_2$: methylamine

MeOH : methanol

$MgSO_4$: magnesium sulfate

NaH : sodium hydride

$NaBH(OAc)_3$: sodium triacetoxyborohydride

$NaBH_3CN$: sodium cyanoborohydride

$NaBH_4$: sodium borohydride

$NaHCO_3$: sodium hydrogencarbonate

Pd/C : palladium carbon

$POCl_3$: phosphoryl chloride

PVP : poly(4-vinylpyridine)

$SOCl_2$: thionyl chloride

TEA : triethylamine

TFA : trifluoroacetic acid

THF : tetrahydrofuran

ZCl : benzyloxycarbonyl chloride

s : singlet

d : doublet

t : triplet

q : qualtet

dd : doublet doublet

dt : doublet triplet

ddd : doublet doublet doublet

brs : broad singlet

m : multiplet

J : coupling constant

Hz : Hertz

Example 1

1-(3,4-Dimethoxy-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-urea hydrochloride

Step A: Synthesis of 2,4-dichloro-quinazoline.

To a suspension of 1*H*-quinazoline-2,4-dione (150 g, 925 mmol) in $POCl_3$ (549 mL, 5.89 mol) was added dimethyl-phenyl-amine (123 mL, 962 mmol). The mixture was stirred at reflux for 7 hr and concentrated. The solution was poured into ice water, and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, concentrated, and purified by flash chromatography (silica gel, 50% $CHCl_3$ in hexane to 10% EtOAc in $CHCl_3$) to give 2,4-dichloro-quinazoline (159 g, 86%) as a pale yellow solid.

CI MS m/e 199, M^+; ^1H NMR (300 MHz, $CDCl_3$) δ 7.71-7.81 (m, 1 H), 7.95-8.04 (m, 2 H), 8.27 (dt, J = 8.3, 1.1 Hz, 1 H).

Step B: Synthesis of (2-chloro-quinazolin-4-yl)-dimethyl-amine.

A solution of 2,4-dichloro-quinazoline (102 g, 530 mmol) in THF (1.2 L) was cooled to 4 °C and 50% aqueous Me_2NH (139 mL, 1.33 mol) was added. The mixture was stirred at ambient temperature for 80 min. The solution was alkalized with saturated aqueous $NaHCO_3$ (pH = 9), and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated. The residue was suspended in 50% Et_2O in hexane (250 mL) and the mixture was stirred at ambient temperature for 30 min. The precipitate was collected by filtration, washed with 50% Et_2O in hexane, and dried at 80 °C to give (2-chloro-quinazolin-4-yl)-dimethyl-amine (104 g, 94%) as a pale yellow solid.

ESI MS m/e 207, M^+; ^1H NMR (300 MHz, $CDCl_3$) δ 3.41 (s, 6 H), 7.68 (ddd, J = 8.4, 6.9, 1.4 Hz, 1 H), 7.73-7.78 (m, 2 H), 8.00 (d, J = 8.4 Hz, 1 H).

Step C: Synthesis of (*cis*-4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid benzyl ester.

To a suspension of *cis*-cyclohexane-1,4-dicarboxylic acid (25.0 g, 145 mmol) in benzene (125 mL) were added phosphorazidic acid diphenyl ester (81.9 g, 298 mmol) and triethylamine (30.1 g, 297 mmol). The reaction mixture was stirred at reflux for 2.5 hr. Benzyl alcohol (32.2 g, 298 mmol) was added and the mixture was stirred at reflux for 24 hr. The reaction mixture was concentrated and the residue was dissolved in EtOAc and H_2O. The organic layer was separated and the aqueous layer was extracted with EtOAc (twice). The combined organic layer was washed with 1 M aqueous $KHSO_4$, saturated aqueous $NaHCO_3$, and brine. The organic layer was dried over $MgSO_4$, filtrated, concentrated, and purified by flash chromatography (silica gel, 33% EtOAc in hexane) to give (*cis*-4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid benzyl ester (52.0 g, 94%) as a colorless oil.

ESI MS m/e 405, M + Na^+; ^1H NMR (300 MHz, $CDCl_3$) δ 1.45-1.60 (m, 4 H), 1.60-1.80 (m, 4 H), 3.52-3.80 (m, 2 H), 4.70-5.00 (m, 2 H), 5.07 (s, 4 H), 7.15-7.40 (m, 10 H).

Step D: Synthesis of (*cis*-4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester.

To a solution of (*cis*-4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid benzyl ester (91.7 g, 240 mmol) in MeOH (460 mL) was added 5% Pd/C (9.17 g). The reaction mixture was stirred at ambient temperature under hydrogen atmosphere for 2.5 days, filtrated through a pad of celite, and concentrated to give a diamine as a colorless oil. To a solution of the diamine in MeOH (550 mL) was added a solution of $(Boc)_2O$ (6.59 g, 30.2 mmol) in MeOH (80 mL) dropwise over 4 hr. The reaction mixture was stirred at ambient temperature for 1.5 days and concentrated. After dissolution with H_2O, the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated to give *cis*-(4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (7.78 g, 15%, crude) as a colorless oil. The aqueous layer was concentrated and the residue was dissolved in MeOH. The solution was dried over $MgSO_4$, filtrated, and concentrated to give a recovered diamine (32.9 g) as a colorless oil. To a solution of the recovered diamine (32.9 g, 288 mmol) in MeOH (660 mL) was added a solution of $(Boc)_2O$ (6.29 g, 28.8 mmol) in MeOH (80 mL) dropwise over 5 hr. The reaction mixture was stirred at ambient temperature for 9.5 hr and concentrated. After dissolution with H_2O, the aqueous layer was extracted with $CHCl_3$

(three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated to give (*cis*-4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (8.16 g, 16%, crude) as a colorless oil. The aqueous layer was concentrated and the residue was dissolved in MeOH. The solution was dried over $MgSO_4$, filtrated, and concentrated to give a recovered diamine (23.1 g) as a colorless oil. To a solution of the recovered diamine (23.1 g, 202 mmol) in MeOH (462 mL) was added a solution of $(Boc)_2O$ (4.42 g, 20.3 mmol) in MeOH (56 mL) dropwise over 4 hr. The reaction mixture was stirred at ambient temperature for 3.5 days and concentrated. After dissolution with H_2O, the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated to give (*cis*-4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (5.01 g, 10% based on starting material) as a colorless oil. The aqueous layer was concentrated and the residue was dissolved in MeOH. The solution was dried over $MgSO_4$, filtrated, and concentrated to give a recovered diamine (16.0 g) as a colorless oil. To a solution of the recovered diamine (16.0 g, 140 mmol) in MeOH (320 mL) was added a solution of $(Boc)_2O$ (3.06 g, 14.0 mmol) in MeOH (40 mL) dropwise over 4 hr. The reaction mixture was stirred at ambient temperature for 17 hr and concentrated. After dissolution with H_2O, the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated to give (*cis*-4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (3.53 g, 7% based on the starting material) as a colorless oil. The aqueous layer was concentrated and the residue was dissolved in MeOH. The solution was dried over $MgSO_4$, filtrated, and concentrated to give a recovered diamine (11.1 g) as a colorless oil.

ESI MS m/e 215, $M + H^+$; ^1H NMR (300 MHz, $CDCl_3$) δ 1.20-1.80 (m, 8 H), 1.44 (s, 9 H), 2.78-2.95 (m, 1 H), 3.50-3.80 (m, 1 H), 4.30-4.82 (m, 1 H).

Step E: Synthesis of N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine.

A mixture of (2-chloro-quinazolin-4-yl)-dimethyl-amine (3.00 g, 14.4 mmol) and (*cis*-4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (3.72 g, 17.4 mmol) in 2-propanol (10 mL) was stirred at reflux for 5.5 days, poured into saturated aqueous $NaHCO_3$, and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated,

concentrated, and purified by flash chromatography (NH-silica, 20% EtOAc in hexane) to give [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid *tert*-butyl ester including solvent (5.44 g) as a colorless oil. To a solution of the above material (5.44 g) in EtOAc (10 mL) was added 4 M hydrogen chloride in EtOAc (50 mL). The reaction mixture was stirred at ambient temperature for 2 hr and concentrated. The residue was alkalized with saturated aqueous $NaHCO_3$, and the precipitate was collected by filtration to give N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (2.26 g, 55%) as a white solid. The aqueous layer was extracted $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated to give N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (687 mg, 17%) as a white solid. ESI MS m/e 285, M^+ ; ^1H NMR (300 MHz, DMSO-d_6) δ 1.22-1.82 (m, 8 H), 3.20 (s, 6 H), 3.38-3.52 (m, 1 H), 3.83-4.06 (m, 1 H), 6.56 (d, J = 7.5 Hz, 1 H), 7.01 (t, J = 7.6 Hz, 1 H), 7.29 (d, J = 8.3 Hz, 1 H), 7.47 (t, J = 8.3 Hz, 1 H), 7.86 (d, J = 7.5 Hz, 1 H).

Step F: Synthesis of 1-(3,4-dimethoxy-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-urea hydrochloride.

To a solution of N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (500 mg, 1.75 mmol) in DMSO (5 mL) was added 4-isocyanato-1,2-dimethoxy-benzene (345 mg, 1.93 mmol). The mixture was stirred at ambient temperature for 1 hr and poured into water. The precipitate was filtrated, washed with water, and purified by medium-pressure liquid chromatography (silica gel, 5% EtOAc in hexane) and flash chromatography (NH-silica, EtOAc) to give a pale yellow oil. To a solution of the above material in EtOAc (2 mL) was added 4 M hydrogen chloride in EtOAc (10 mL). The mixture was stirred at ambient temperature for 1 hr and concentrated. A suspension of the residue in Et_2O (20 mL) was stirred at ambient tempareture for 1 hr. The precipitate was collected by filtration, washed with Et_2O, and dried at 80 °C under reduced pressure to give 1-(3,4-dimethoxy-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-urea hydrochloride (757 mg, 86%) as a white solid.

ESI MS m/e 487, M (free) + Na^+ ; ^1H NMR (300 MHz, $CDCl_3$) δ 1.68-2.07 (m, 8 H), 3.49 (s, 6 H), 3.79 (s, 6 H), 3.95, (brs, 1 H), 4.09 (brs, 1 H), 6.66 (d, J = 8.7 Hz, 1 H), 6.82 (d, J = 9.0 Hz, 1 H),

7.17-7.33 (m, 2 H), 7.48-7.66 (m, 2 H), 7.87 (d, J = 7.3 Hz, 1 H), 8.37 (brs, 1 H), 12.77 (brs, 1 H).

Example 2

1-(2,3-Dichloro-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-urea hydrochloride

Step A: Synthesis of (*cis*-4-hydroxymethyl-cyclohexyl)-carbamic acid *tert*-butyl ester.

A suspension of *cis*-4-amino-cyclohexanecarboxylic acid (244 g, 1.71 mol) in MeOH (2.45 L) was cooled to –8 °C . Thionyl chloride (440 mL, 6.03 mol) was added dropwise. The resulting solution was stirred at ambient temperature for 4.5 hr and concentrated to give a white solid. To a suspension of the above solid in $CHCl_3$ (3.00 L) were added triethylamine (261 mL, 1.88 mol) and $(Boc)_2O$ (409 g, 1.88 mol) successively. The reaction mixture was stirred at ambient temperature for 5 hr and poured into water. The aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, concentrated, and purified by flash chromatography (silica gel, 11% EtOAc in hexane to 10% MeOH in $CHCl_3$) and flash chromatography (NH-silica, 33% EtOAc in hexane to 9% MeOH in $CHCl_3$) to give a colorless oil (531 g). To a suspension cooled at -4 °C of lithium aluminum hydride (78.3 g, 2.06 mol) in Et_2O (7.9 L) was added a solution of the above oil (530.9 g) in Et_2O (5.3 L) below 0 °C. The resulting suspension was stirred at ambient temperature for 2 hr. The reaction mixture was cooled on an ice-bath, quenched with cold water, and filtrated through a pad of celite. The filtrate was dried over $MgSO_4$, filtrated, and concentrated. The residue was suspended in hexane (300 mL), filtrated, washed with hexane, and dried at 70 °C to give (*cis*-4-hydroxymethyl-cyclohexyl)-carbamic acid *tert*-butyl ester (301 g, 77%) as a white solid. ESI MS m/e 252, $M + Na^+$; ^1H NMR (300 MHz, $CDCl_3$) δ 1.16-1.36 (m, 2 H), 1.45 (s, 9 H), 1.52-1.77 (m, 7 H), 3.51 (d, J = 6.2 Hz, 2 H), 3.75 (brs, 1 H), 4.30-4.82 (m, 1 H).

Step B: Synthesis of [*cis*-4-(benzyloxycarbonylamino-methyl)-cyclohexyl]-carbamic acid *tert*-butyl ester.

To a solution of (*cis*-4-hydroxymethyl-cyclohexyl)-carbamic acid *tert*-butyl ester (17.7 g, 77.2 mmol) in THF (245 mL) were added triphenylphosphine (20.2 g, 77.0 mmol) and phthalimide (11.4 g, 77.5 mmol) successively. The resulting suspension was cooled on an ice-bath and 40% diethyl azodicarboxylate in toluene (33.6 mL, 74.1 mmol) was added over 1 hr. The reaction mixture was stirred at ambient temperature for 2.5 days, concentrated, and purified by flash chromatography (silica gel, 33% EtOAc in hexane) to give a white solid. To a suspension of the above solid (27.5 g) in EtOH (275 mL) was added hydrazine hydrate (5.76 g, 115 mmol). The mixture was stirred at reflux for 2.25 hr, cooled, and concentrated. The residue was dissolved in 10% aqueous NaOH (350 mL) and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, and concentrated. To a solution of the above residue in $CHCl_3$ (275 mL) was added triethylamine (8.54 g, 84.4 mmol). The resulting solution was cooled to 0 °C and ZCl (14.4 g, 84.4 mmol) was added below 5 °C. The reaction mixture was stirred at ambient temperature for 16 hr and poured into saturated aqueous $NaHCO_3$. The aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, concentrated, and purified by flash chromatography (silica gel, 2% MeOH in $CHCl_3$) to give [*cis*-4-(benzyloxycarbonylamino-methyl)-cyclohexyl]-carbamic acid *tert*-butyl ester (25.3 g, 91%) as a colorless oil.

ESI MS m/e 385, $M + Na^+$; ^1H NMR (300 MHz, $CDCl_3$) δ 1.13-1.31 (m, 2 H), 1.44 (s, 9 H), 1.48-1.75 (m, 7 H), 3.10 (t, J = 6.4 Hz, 2 H), 3.72 (brs, 1 H), 4.42-4.76 (m, 1 H), 4.76-4.92 (m, 1 H), 5.09 (s, 2 H), 7.27-7.38 (m, 5 H).

Step C: Synthesis of (*cis*-4-amino-cyclohexylmethyl)-carbamic acid benzyl ester.

To a solution of [*cis*-4-(benzyloxycarbonylamino-methyl)-cyclohexyl]-carbamic acid *tert*-butyl ester (12.9 g, 35.6 mmol) in EtOAc (129 mL) was added 4 M hydrogen chloride in EtOAc (129 mL). The reaction mixture was stirred at ambient temperature for 3 hr, filtrated, washed with EtOAc, and dried under reduced pressure. The above solid was dissolved in saturated aqueous $NaHCO_3$ (pH = 9). The aqueous layer was extracted with $CHCl_3$ (five times). The combined organic layer was dried over $MgSO_4$, filtrated, concentrated, and dried under reduced pressure to give (*cis*-4-amino-cyclohexylmethyl)-carbamic acid benzyl ester (8.88 g, 95%) as a colorless oil.

ESI MS m/e 263, M + H$^+$; ^{1}H NMR (300 MHz, $CDCl_3$) δ 1.36-1.98 (m, 9 H), 2.96-3.32 (m, 3 H), 5.12 (brs, 3 H), 7.36 (s, 5 H).

Step D: Synthesis of [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester.

A mixture of (2-chloro-quinazolin-4-yl)-dimethyl-amine obtained in step B of example 1 (50 g, 258 mmol) and (*cis*-4-amino-cyclohexylmethyl)-carbamic acid benzyl ester (81 g, 309 mmol) in 2-propanol (75 mL) was stirred at reflux for 7 days. The reaction mixture was poured into saturated aqueous $NaHCO_3$ and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtrated, concentrated, and purified by flash chromatography (NH-silica gel, 13% to 50% EtOAc in hexane) to give [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester (65.7 g, 59%) as a pale brown solid.

ESI MS m/e 434, M + H$^+$; ^{1}H NMR (300 MHz, $CDCl_3$) δ 1.23-1.40 (m, 2 H), 1.52-1.73 (m, 5 H), 1.80-1.93 (m, 2 H), 3.11 (t, J = 6.3 Hz, 2 H), 3.26 (s, 6 H), 4.18-4.28 (m, 1 H), 4.82-4.93 (m, 1 H), 4.93-5.06 (m, 1 H), 5.10 (s, 2 H), 7.01 (ddd, J = 8.2, 6.5, 1.7 Hz, 1 H), 7.26-7.52 (m, 7 H), 7.81 (d, J = 9.0 Hz, 1 H).

Step E: Synthesis of N^2-(*cis*-4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine.

To a solution of [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl-methyl]-carbamic acid benzyl ester (12.1 g, 27.9 mmol) in MeOH (120 mL) was added 10% Pd/C (1.21 g). The mixture was stirred at 50 °C under hydrogen atmosphere for 19 hr, filtrated, concentrated, and purified by flash chromatography (NH-silica, 66% EtOAc in hexane to 15% MeOH in $CHCl_3$) to give N^2-(*cis*-4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (6.9 g, 83%) as a pale yellow solid.

CI MS m/e 300, M + H$^+$; ^{1}H NMR (300 MHz, $CDCl_3$) δ 0.90-1.51 (m, 5 H), 1.57-1.76 (m, 4 H), 1.81-1.96 (m, 2 H), 2.60 (d, J = 6.4 Hz, 2 H), 3.27 (s, 6 H), 4.24-4.30 (m, 1 H), 5.04 (d, J = 7.3 Hz, 1 H), 6.98-7.04 (m, 1 H), 7.40-7.51 (m, 2 H), 7.81 (d, J = 8.4 Hz, 1 H).

Step F: Synthesis of 1-(2,3-dichloro-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-urea hydrochloride.

Using the procedure for the step F of example 1, the title compound was obtained.

ESI MS m/e 509, M (free) + Na^+ ; ^1H NMR (300 MHz, $CDCl_3$) δ 1.48-2.12 (m, 9 H), 3.37-3.44 (m, 2 H), 3.51 (s, 6 H), 4.37-4.49 (m, 1 H), 6.91-7.13 (m, 3 H), 7.27 (ddd, *J* = 8.4, 7.2, 1.2 Hz, 1 H), 7.50 (dd, *J* = 8.6, 1.2 Hz, 1 H), 7.67 (ddd, *J* = 8.4, 7.2, 1.2 Hz, 1 H), 7.89 (d, *J* = 8.4 Hz, 1 H), 8.17 (dd, *J* = 8.2, 1.7 Hz, 1 H), 8.24 (s, 1 H), 8.89 (d, *J* = 8.9 Hz, 1 H), 12.42 (s, 1 H).

Example 3

1-(2,6-Dichloro-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-urea hydrochloride

Step A: Synthesis of 1-(2,6-dichloro-phenyl)-3-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-urea hydrochloride.

Using the procedure for the step F of example 1, the title compound was obtained.

ESI MS m/e 509, M (free) + Na^+ ; ^1H NMR (300 MHz, $CDCl_3$) δ 1.51-2.06 (m, 9 H), 3.37-3.42 (m, 2 H), 3.52 (s, 6 H), 4.37-4.47 (m, 1 H), 6.35-6.45 (m, 1 H), 6.96-7.06 (m, 1 H), 7.23-7.31 (m, 3 H), 7.43-7.49 (m, 1 H), 7.61-7.68 (m, 1 H), 7.91 (d, *J* = 7.9 Hz, 2 H), 8.72 (d, *J* = 8.7 Hz, 1 H), 12.64 (s, 1 H).

Example 4-845

To a solution of amines (30 μmol) as shown below in DMSO (300 μL) were added isocyanate or isothiocyanate (60 μmol) in DMSO (200 μL) at ambient temperature. The mixture was stirred at the same temperature for 22 hr. To the reaction mixture were added 2 M $MeNH_2$ in THF (30 μL, 60 μmol) or D-gulcamine (60 μmol) in DMSO (200 μL) at ambient temperature. After stirring at the

same temperature for 20 hr, the reaction mixture was filtrated through a pad of SCX, concentrated by a stream of dry N_2, and purified by silica gel chromatography (silica gel, 2% to 7% 2 M NH_3/MeOH in $CHCl_3$) and silica gel chromatography (NH-silica, 20% to 50% EtOAc in hexane) to give the desired product. The product was determined by ESI-MS or APCI-MS.

Example 046-005

To a solution of poly(4-vinylpyridine) (75 μL) in CH_2Cl_2 (200 μL) were added the amines (30 μmol) as shown below in CH_2Cl_2 (200 μL) and chloroformate (R_1OCOCl, 60 μmol) in CH_2Cl_2 (200 μL) at ambient temperature. After stirring at the same temperature for 17 hr, the reaction mixture was filtrated and concentrated by a stream of dry N_2. To the residue were added CH_2Cl_2 (700 μL) and PSA (300 μL). After the stirring at ambient temperature for 19 hr, the reaction mixture was filtrated and purified by silica gel chromatography (NH-silica, 20% EtOAc in hexane) and silica gel chromatography (silica gel, 2% to 7% 2 M NH_3/MeOH in $CHCl_3$) to give the desired product. The product was determined by ESI-MS or APCI-MS.

Wherein the amines are selected from

N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine obtained in step E of example 1 or N^2-(*cis*-4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine obtained in step E of example 2.

Ex. No.	compound name	MS	class
4	N-(3-acetylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	447 (M + H)	3
5	N-1-adamantyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	463 (M + H)	3
6	N-(4-acetylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	447 (M + H)	3
7	N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}benzamide	433 (M + H)	3
8	N-[3,5-bis(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	541 (M + H)	3
9	N-benzyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	419 (M + H)	2
10	N-(2-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	483 (M + H)	1
11	N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	481 (M + H)	1
12	N-(4-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	483 (M + H)	2
13	N-butyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	385 (M + H)	1
14	N-(3-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	439 (M + H)	3
15	N-(4-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	439 (M + H)	3
16	N-cyclohexyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	411 (M + H)	2
17	N-(3-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	430 (M + H)	3
18	N-(2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	439 (M + H)	1
19	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)urea	433 (M + H)	1
20	N-(3,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	3
21	N-(2,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	441 (M + H)	1
22	N-(2,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	2
23	N-(3,5-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	3
24	N-(2,3-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	3
25	N-(2,6-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	441 (M + H)	3
26	N-(2,5-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	3

Ex. No.	compound name	MS	class
27	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)urea	433 (M + H)	1
28	ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}glycinate	415 (M + H)	3
29	ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	477 (M + H)	1
30	ethyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	477 (M + H)	2
31	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethylphenyl)urea	433 (M + H)	2
32	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-ethylurea	357 (M + H)	3
33	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)urea	447 (M + H)	1
34	ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}leucinate	471 (M + H)	1
35	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-3-nitrophenyl)urea	468 (M + H)	3
36	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorophenyl)urea	423 (M + H)	1
37	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorophenyl)urea	423 (M + H)	3
38	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorophenyl)urea	423 (M + H)	3
39	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-isopropylphenyl)urea	447 (M + H)	3
40	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(3-isopropenylphenyl)-1-methylethyl]urea	487 (M + H)	1
41	methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}methioninate	475 (M + H)	1
42	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-isopropylurea	371 (M + H)	3
43	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxyphenyl)urea	435 (M + H)	2
44	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methyl-2-nitrophenyl)urea	464 (M + H)	3
45	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxyphenyl)urea	435 (M + H)	2
46	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxyphenyl)urea	435 (M + H)	2
47	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(methylthio)phenyl]urea	451 (M + H)	1
48	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybenzyl)urea	449 (M + H)	2
49	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylbenzyl)urea	433 (M + H)	3

Ex. No.	compound name	MS	class
50	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylurea	455 (M + H)	1
51	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(2S)-2-phenylcyclopropyl]urea	445 (M + H)	1
52	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-phenylurea	405 (M + H)	2
53	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenoxyphenyl)urea	497 (M + H)	1
54	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-pentylurea	399 (M + H)	1
55	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethyl)phenyl]urea	473 (M + H)	1
56	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(trifluoromethyl)phenyl]urea	473 (M + H)	3
57	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylphenyl)urea	419 (M + H)	2
58	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylurea	447 (M + H)	1
59	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylphenyl)urea	419 (M + H)	2
60	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylphenyl)urea	419 (M + H)	1
61	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(1-naphthyl)ethyl]urea	483 (M + H)	1
62	methyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}phenylalaninate	491 (M + H)	1
63	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)urea	507 (M + H)	1
64	N-(3-chloro-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	3
65	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-phenylethyl)urea	433 (M + H)	1
66	1-[4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1-phenyl-ethyl)-urea	433 (M + H)	1
67	1-[4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1-naphthalen-1-yl-ethyl)-urea	483 (M + H)	2
68	N-(2,6-diisopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	489 (M + H)	3
69	N-[2-(difluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	471 (M + H)	3
70	methyl 2-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	463 (M + H)	3
71	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(methylthio)phenyl]urea	451 (M + H)	2
72	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,5,6-tetrachlorophenyl)urea	541 (M + H)	1

Ex. No.	compound name	MS	class
73	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethyl-6-nitrophenyl)urea	478 (M + H)	2
74	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,5-trichlorophenyl)urea	507 (M + H)	3
75	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)urea	638 (M + H)	1
76	N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	579 (M + H)	1
77	N-(2,4-dibromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	561 (M + H)	1
78	N-(2,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	487 (M + H)	1
79	N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	465 (M + H)	1
80	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4-dimethylphenyl)urea	433 (M + H)	3
81	N-(2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	465 (M + H)	2
82	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,5-dimethylphenyl)urea	433 (M + H)	3
83	N-(2,6-dibromo-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	579 (M + H)	3
84	N-(2,6-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473 (M + H)	3
85	N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	461 (M + H)	1
86	N-(2-benzylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	495 (M + H)	3
87	N-(2-chloro-5-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	3
88	N-(2-chloro-5-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	484 (M + H)	2
89	N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	507 (M + H)	1
90	N-(2-chloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	1
91	N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	1
92	ethyl 2-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	477 (M + H)	3
93	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)urea	449 (M + H)	1
94	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-isopropylphenyl)urea	475 (M + H)	1
95	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)urea	433 (M + H)	1

Ex. No.	compound name	MS	class
96	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-fluoro-3-(trifluoromethyl)phenyl]urea	491 (M + H)	3
97	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-fluoro-5-(trifluoromethyl)phenyl]urea	491 (M + H)	3
98	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluoro-5-methylphenyl)urea	437 (M + H)	3
99	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluoro-5-nitrophenyl)urea	468 (M + H)	3
100	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorobenzyl)urea	437 (M + H)	1
101	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-iodophenyl)urea	531 (M + H)	1
102	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)urea	461 (M + H)	1
103	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)urea	447 (M + H)	1
104	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-4-nitrophenyl)urea	480 (M + H)	2
105	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-methylphenyl)urea	449 (M + H)	2
106	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-nitrophenyl)urea	480 (M + H)	3
107	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-3-nitrophenyl)urea	464 (M + H)	1
108	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)urea	464 (M + H)	1
109	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-5-nitrophenyl)urea	464 (M + H)	1
110	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-6-nitrophenyl)urea	464 (M + H)	3
111	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylbenzyl)urea	433 (M + H)	1
112	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-2-naphthylurea	455 (M + H)	3
113	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-nitrophenyl)urea	450 (M + H)	1
114	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-propylphenyl)urea	447 (M + H)	1
115	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-phenoxyphenyl)urea	497 (M + H)	2
116	N-(2-tert-butyl-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	475 (M + H)	1
117	N-(2-tert-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	461 (M + H)	1
118	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(methylthio)phenyl]urea	451 (M + H)	2

Ex. No.	compound name	MS	class
119	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{3-[(trifluoromethyl)thio]phenyl}urea	505 (M + H)	3
120	N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	449 (M + H)	1
121	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)urea	495 (M + H)	1
122	N-(3,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	487 (M + H)	2
123	N-(3,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	441 (M + H)	2
124	N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	465 (M + H)	1
125	N-(3,5-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	441 (M + H)	2
126	N-(3,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	465 (M + H)	2
127	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylphenyl)urea	433 (M + H)	2
128	methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	463 (M + H)	2
129	N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	1
130	N-(3-chloro-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	457 (M + H)	2
131	N-(3-chloro-4-methoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	469 (M + H)	1
132	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-ethylphenyl)urea	433 (M + H)	2
133	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-fluoro-5-(trifluoromethyl)phenyl]urea	491 (M + H)	3
134	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorobenzyl)urea	437 (M + H)	2
135	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-nitrophenyl)urea	448 (M - H)	3
136	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trifluoromethyl)phenyl]urea	473 (M + H)	3
137	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{4-[(trifluoromethyl)thio]phenyl}urea	505 (M + H)	3
138	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4,5-dimethyl-2-nitrophenyl)urea	478 (M + H)	3
139	N-[4-(benzyloxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	511 (M + H)	3
140	N-(4-benzylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	495 (M + H)	3
141	N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	551 (M + H)	1

Ex. No.	compound name	MS	class
142	N-(4-bromo-2,6-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	519 (M + H)	1
143	N-(4-bromo-2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	517 (M + H)	3
144	N-(4-bromobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	497 (M + H)	1
145	N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	507 (M + H)	1
146	N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	1
147	N-(4-chloro-2-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	484 (M + H)	3
148	N-[4-chloro-3-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	507 (M + H)	3
149	N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	430 (M + H)	1
150	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethoxyphenyl)urea	449 (M + H)	2
151	N-[1-(4-bromophenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	511 (M + H)	1
152	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethoxy)phenyl]urea	489 (M + H)	3
153	N-(3-acetylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	463 (M + H)	3
154	N-(4-acetylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	463 (M + H)	3
155	N-[3,5-bis(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	557 (M + H)	3
156	N-benzyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	435 (M + H)	3
157	N-(3-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	499 (M + H)	3
158	N-(4-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	499 (M + H)	1
159	N-butyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	401 (M + H)	3
160	N-(4-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	446 (M + H)	1
161	N-cyclohexyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	427 (M + H)	2
162	N-cyclopentyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	413 (M + H)	2
163	N-(3-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	455 (M + H)	3
164	N-(4-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	455 (M + H)	2

Ex. No.	compound name	MS	class
165	N-(2,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	1
166	N-(2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	481 (M + H)	1
167	N-(2,5-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	457 (M + H)	3
168	N-(2,5-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	3
169	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,6-dimethylphenyl)thiourea	449 (M + H)	1
170	N-(3,4-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	3
171	N-(2,6-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	3
172	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethoxyphenyl)thiourea	465 (M + H)	3
173	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-isopropylphenyl)thiourea	491 (M + H)	1
174	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-furylmethyl)thiourea	425 (M + H)	3
175	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorophenyl)thiourea	439 (M + H)	2
176	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-hexylthiourea	429 (M + H)	2
177	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trans-4-propylcyclohexyl)phenyl]thiourea	545 (M + H)	3
178	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-isobutylthiourea	401 (M + H)	2
179	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybiphenyl-3-yl)thiourea	527 (M + H)	2
180	N-(1,3-benzodioxol-5-ylmethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	479 (M + H)	2
181	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylphenyl)thiourea	435 (M + H)	3
182	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(methylthio)phenyl]thiourea	467 (M + H)	2
183	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxyphenyl)thiourea	451 (M + H)	2
184	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylprop-2-en-1-yl)thiourea	399 (M + H)	3
185	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxyphenyl)thiourea	451 (M + H)	1
186	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-methylthiourea	359 (M + H)	3
187	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-1-naphthylthiourea	471 (M + H)	1

Ex. No.	compound name	MS	class
188	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-nitrophenyl)thiourea	466 (M + H)	3
189	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-nitrophenyl)thiourea	466 (M + H)	2
190	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1,1,3,3-tetramethylbutyl)thiourea	457 (M + H)	3
191	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-phenylthiourea	421 (M + H)	3
192	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(pentafluorophenyl)thiourea	511 (M + H)	2
193	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-propylthiourea	387 (M + H)	2
194	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(trifluoromethyl)phenyl]thiourea	489 (M + H)	3
195	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4,5-trimethoxyphenyl)thiourea	511 (M + H)	1
196	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(tetrahydrofuran-2-ylmethyl)thiourea	429 (M + H)	3
197	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylphenyl)thiourea	435 (M + H)	2
198	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylphenyl)thiourea	435 (M + H)	3
199	N-(tert-butyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	401 (M + H)	3
200	N-1-adamantyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	479 (M + H)	3
201	N-(2-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	499 (M + H)	3
202	N-(2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	455 (M + H)	3
203	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-phenylethyl)thiourea	449 (M + H)	3
204	N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	481 (M + H)	1
205	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-ethylphenyl)thiourea	449 (M + H)	2
206	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(methylthio)phenyl]thiourea	467 (M + H)	2
207	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethoxy)phenyl]thiourea	505 (M + H)	2
208	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(trifluoromethyl)phenyl]thiourea	489 (M + H)	3
209	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,4-trifluorophenyl)thiourea	475 (M + H)	2
210	N-(2,3-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	3

Ex. No.	compound name	MS	class
211	N-(2,4-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	457 (M + H)	3
212	N-(2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	481 (M + H)	2
213	N-(2,6-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	457 (M + H)	3
214	N-(2-chloro-4-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	500 (M + H)	2
215	N-[2-(difluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	487 (M + H)	3
216	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethylphenyl)thiourea	449 (M + H)	1
217	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-fluoro-5-(trifluoromethyl)phenyl]thiourea	507 (M + H)	3
218	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorophenyl)thiourea	439 (M + H)	3
219	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-iodophenyl)thiourea	547 (M + H)	2
220	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-4-nitrophenyl)thiourea	496 (M + H)	1
221	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-methylphenyl)thiourea	465 (M + H)	1
222	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{3-[(trifluoromethyl)thio]phenyl}thiourea	521 (M + H)	3
223	N-(3,5-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	489 (M + H)	3
224	N-(3,5-difluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	457 (M + H)	3
225	N-(3-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	446 (M + H)	3
226	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorophenyl)thiourea	439 (M + H)	3
227	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-iodophenyl)thiourea	547 (M + H)	2
228	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxyphenyl)thiourea	451 (M + H)	2
229	N-[4-(difluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	487 (M + H)	2
230	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trifluoromethoxy)phenyl]thiourea	505 (M + H)	3
231	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trifluoromethyl)phenyl]thiourea	489 (M + H)	2
232	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{4-[(trifluoromethyl)thio]phenyl}thiourea	521 (M + H)	3
233	N-(4-bromo-2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	533 (M + H)	1

Ex. No.	compound name	MS	class
234	N-(4-bromo-2-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	517 (M + H)	3
235	N-[4-chloro-3-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	523 (M + H)	3
236	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-fluoro-3-(trifluoromethyl)phenyl]thiourea	507 (M + H)	3
237	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-iodophenyl)thiourea	547 (M + H)	1
238	N-(5-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	2
239	N-[(1S,4R)-bicyclo[2.2.1]hept-2-yl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	439 (M + H)	2
240	tert-butyl [4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)phenyl]-carbamate	536 (M + H)	3
241	N-[2-(3,4-dimethoxyphenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	509 (M + H)	3
242	N-[2-(4-chlorophenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	483 (M + H)	2
243	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,4,5-tetrachlorophenyl)thiourea	557 (M + H)	3
244	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,5-trichlorophenyl)thiourea	523 (M + H)	3
245	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-tribromophenyl)thiourea	654 (M + H)	1
246	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trichlorophenyl)thiourea	523 (M + H)	1
247	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,6-trifluorophenyl)thiourea	475 (M + H)	3
248	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-mesitylthiourea	463 (M + H)	1
249	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4-dimethylphenyl)thiourea	449 (M + H)	1
250	N-(2,6-diethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	477 (M + H)	1
251	N-(2,6-diisopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	505 (M + H)	2
252	N-(2-bromo-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	513 (M + H)	1
253	N-[2-chloro-5-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	523 (M + H)	3
254	N-(2-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	1
255	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethyl-6-methylphenyl)thiourea	463 (M + H)	1
256	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropylphenyl)thiourea	463 (M + H)	1

Ex. No.	compound name	MS	class
257	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(methylthio)phenyl]thiourea	467 (M + H)	3
258	N-(3,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	503 (M + H)	3
259	N-(3,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	481 (M + H)	2
260	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylphenyl)thiourea	449 (M + H)	2
261	N-[3-(benzyloxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	527 (M + H)	3
262	N-(3-chloro-4-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	2
263	methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)benzoate	479 (M + H)	1
264	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-phenylpropyl)thiourea	463 (M + H)	3
265	N-[4-(benzyloxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	527 (M + H)	3
266	N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	527 (M + H)	1
267	N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	513 (M + H)	1
268	N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	567 (M + H)	1
269	N-(4-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	1
270	N-(4-chloro-3-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	500 (M + H)	3
271	N-(4-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	3
272	ethyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)benzoate	493 (M + H)	3
273	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[1-(4-fluorophenyl)ethyl]thiourea	467 (M + H)	2
274	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorobenzyl)thiourea	453 (M + H)	2
275	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-isopropylphenyl)thiourea	463 (M + H)	2
276	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-nitrophenyl)thiourea	496 (M + H)	3
277	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxybenzyl)thiourea	465 (M + H)	2
278	methyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)benzoate	479 (M + H)	2
279	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methyl-2-nitrophenyl)thiourea	480 (M + H)	3

Ex. No.	compound name	MS	class
280	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylbenzyl)thiourea	449 (M + H)	3
281	N-(4-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	477 (M + H)	3
282	N-(5-chloro-2-methoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	485 (M + H)	3
283	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-phenylethyl)thiourea	449 (M + H)	2
284	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(diphenylmethyl)thiourea	511 (M + H)	2
285	N-cyclododecyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	511 (M + H)	3
286	N-(cyclohexylmethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	441 (M + H)	2
287	N-cyclooctyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	455 (M + H)	2
288	N-cyclopropyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	385 (M + H)	2
289	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(1-naphthylmethyl)thiourea	485 (M + H)	1
290	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,2-diphenylethyl)thiourea	525 (M + H)	2
291	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3,5,6-tetrachlorophenyl)thiourea	557 (M + H)	3
292	N-(2,3-dimethoxybenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	495 (M + H)	1
293	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,4,5-trimethylphenyl)thiourea	463 (M + H)	1
294	N-(2,4-dichlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	503 (M + H)	3
295	N-(2,5-dibromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	577 (M + H)	3
296	N-[2-(2,5-dimethoxyphenyl)ethyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	509 (M + H)	2
297	N-biphenyl-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	497 (M + H)	1
298	N-(2-chloro-5-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	500 (M + H)	3
299	N-(2-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	446 (M + H)	3
300	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-fluorobenzyl)thiourea	453 (M + H)	2
301	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxy-5-nitrophenyl)thiourea	496 (M + H)	3
302	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methyl-4-nitrophenyl)thiourea	480 (M + H)	1

Ex. No.	compound name	MS	class
303	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methylbenzyl)thiourea	449 (M + H)	2
304	N-(3,4-dimethoxybenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	495 (M + H)	3
305	N-(3-chlorobenzyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	1
306	ethyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)benzoate	493 (M + H)	1
307	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-ethylphenyl)thiourea	449 (M + H)	2
308	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-fluorobenzyl)thiourea	453 (M + H)	2
309	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methoxybenzyl)thiourea	465 (M + H)	2
310	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methylbenzyl)thiourea	449 (M + H)	2
311	N-(4-bromo-3-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	533 (M + H)	3
312	N-(4-bromo-3-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	513 (M + H)	3
313	4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)benzoic acid	465 (M + H)	3
314	N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	523 (M + H)	1
315	N-(4-decylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	561 (M + H)	3
316	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-2-methylphenyl)thiourea	453 (M + H)	1
317	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(4-nitrophenoxy)phenyl]thiourea	558 (M + H)	3
318	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{4-[(4-nitrophenyl)thio]phenyl}thiourea	574 (M + H)	3
319	4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)amino]carbonothioyl}amino)benzenesulfonamide	500 (M + H)	3
320	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)thiourea	465 (M + H)	1
321	N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)amino]carbonothioyl}-4-methoxybenzamide	479 (M + H)	3
322	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(4-methylphenyl)ethyl]thiourea	463 (M + H)	3
323	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenoxyphenyl)thiourea	513 (M + H)	3
324	N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	515 (M + H)	1
325	N-(2,3-dihydro-1H-inden-5-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	461 (M + H)	2

Ex. No.	compound name	MS	class
326	(2E)-N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}-3-phenylacrylamide	475 (M + H)	3
327	N-[(2E)-but-2-en-1-yl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	399 (M + H)	3
328	N-cycloheptyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	441 (M + H)	2
329	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[(1R)-1-phenylethyl]thiourea	449 (M + H)	1
330	butyl 2-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	505 (M + H)	3
331	dimethyl 5-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)isophthalate	521 (M + H)	3
332	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(trifluoromethoxy)phenyl]urea	489 (M + H)	3
333	N-(4-bromo-2,6-dimethylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	511 (M + H)	1
334	N-(4-bromo-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	497 (M + H)	1
335	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,2,4,4-tetrafluoro-4H-1,3-benzodioxin-6-yl)urea	535 (M + H)	3
336	ethyl N-{[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}phenylalaninate	505 (M + H)	1
337	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[2-(2-thienyl)ethyl]urea	439 (M + H)	2
338	N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	463 (M + H)	1
339	N-(2,6-dibromo-4-isopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	603 (M + H)	1
340	N-(2-cyanophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	430 (M + H)	3
341	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-2-thienylurea	411 (M + H)	3
342	N-[3-(cyclopentyloxy)-4-methoxyphenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	519 (M + H)	1
343	N-(3,4-dihydro-2H-1,5-benzodioxepin-7-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	477 (M + H)	1
344	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-3-thienylurea	411 (M + H)	3
345	N-(4-tert-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	461 (M + H)	3
346	N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	475 (M + H)	1
347	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea	477 (M + H)	1
348	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-phenyl-2-thienyl)urea	487 (M + H)	3

Ex. No.	compound name	MS	class
349	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(6-fluoro-4H-1,3-benzodioxin-8-yl)urea	481 (M + H)	2
350	benzyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)amino]carbonyl}amino)piperidine-1-carboxylate	546 (M + H)	3
351	N-[4-(dimethylamino)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	448 (M + H)	3
352	N-(2,6-dichloropyridin-4-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	474 (M + H)	3
353	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylisoxazol-4-yl)urea	424 (M + H)	2
354	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-methyl-5-phenylisoxazol-4-yl)urea	486 (M + H)	1
355	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)urea	486 (M + H)	1
356	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-prop-2-yn-1-ylthiourea	383 (M + H)	3
357	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(piperidin-1-ylsulfonyl)phenyl]thiourea	568 (M + H)	3
358	N-(2-cyclohex-1-en-1-ylethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	453 (M + H)	2
359	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,3-dimethylphenyl)thiourea	449 (M + H)	1
360	N-(2,4-dibromo-6-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	595 (M + H)	1
361	N-(2,4-dichloro-6-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	503 (M + H)	1
362	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2,5-dimethylphenyl)thiourea	449 (M + H)	2
363	N-(2-bromo-4-isopropylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	541 (M + H)	2
364	N-(2-bromo-5-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	517 (M + H)	2
365	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-ethoxyphenyl)thiourea	465 (M + H)	1
366	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-isopropyl-6-methylphenyl)thiourea	477 (M + H)	1
367	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-methoxybenzyl)thiourea	465 (M + H)	2
368	N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	479 (M + H)	1
369	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,4-dimethylphenyl)thiourea	449 (M + H)	3
370	N-1,3-benzodioxol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	465 (M + H)	1
371	N-(3-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	469 (M + H)	1

Ex. No.	compound name	MS	class
372	N-[4-bromo-2-(trifluoromethoxy)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	583 (M + H)	1
373	N-(4-chloro-2,5-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	515 (M + H)	1
374	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-phenylbutyl)thiourea	477 (M + H)	2
375	N-(4-tert-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	477 (M + H)	3
376	N-(5-chloro-2-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	473 (M + H)	3
377	N-bicyclo[2.2.1]hept-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	439 (M + H)	1
378	N-bicyclo[2.2.1]hept-5-en-2-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	437 (M + H)	3
379	N-(cyclopropylmethyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	399 (M + H)	3
380	ethyl 2-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)-4,5,6,7-tetrahydro-1-benzothiophene-3-carboxylate	553 (M + H)	3
381	methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)-4-methylthiophene-2-carboxylate	499 (M + H)	1
382	methyl 3-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonothioyl}amino)thiophene-2-carboxylate	485 (M + H)	1
383	N-(2-bromo-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	517 (M + H)	2
384	N-(3-chloro-4-fluorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	473 (M + H)	3
385	N-(4-butyl-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	491 (M + H)	1
386	N-[4-(dimethylamino)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	464 (M + H)	3
387	N-[3-(diethylamino)propyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	458 (M + H)	3
388	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-morpholin-4-ylethyl)thiourea	458 (M + H)	3
389	N-[4-(dimethylamino)-1-naphthyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	514 (M + H)	1
390	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-pyridin-3-ylthiourea	422 (M + H)	3
391	N-(4-{(E)-[4-(dimethylamino)phenyl]diazenyl}phenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	568 (M + H)	3
392	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3-morpholin-4-ylpropyl)thiourea	472 (M + H)	3
393	N-[4-(diethylamino)phenyl]-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	492 (M + H)	3

Ex. No.	compound name	MS	class
394	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-{4-[(E)-phenyldiazenyl]phenyl}thiourea	525 (M + H)	3
395	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-piperidin-1-ylethyl)thiourea	456 (M + H)	3
396	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(pyridin-3-ylmethyl)thiourea	436 (M + H)	3
397	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(1H-pyrazol-1-yl)phenyl]thiourea	487 (M + H)	3
398	N-2,1,3-benzothiadiazol-4-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	479 (M + H)	3
399	N-2,1,3-benzothiadiazol-5-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	479 (M + H)	3
400	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(3,5-dimethylisoxazol-4-yl)thiourea	440 (M + H)	3
401	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(1,3-oxazol-5-yl)phenyl]thiourea	488 (M + H)	3
402	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-methyl-3-phenylisoxazol-4-yl)thiourea	502 (M + H)	1
403	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(6-morpholin-4-ylpyridin-3-yl)thiourea	507 (M + H)	3
404	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(6-phenoxypyridin-3-yl)thiourea	514 (M + H)	3
405	N-(3-acetylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	461 (M + H)	3
406	N-1-adamantyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	477 (M + H)	3
407	N-(4-acetylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	461 (M + H)	3
408	N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)benzamide	447 (M + H)	3
409	N-[3,5-bis(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	555 (M + H)	3
410	N-benzyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	433 (M + H)	3
411	N-(2-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	497 (M + H)	2
412	N-biphenyl-2-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	495 (M + H)	2
413	N-(4-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	497 (M + H)	3
414	N-butyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	399 (M + H)	2
415	N-(3-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453 (M + H)	2
416	N-(4-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453 (M + H)	3

Ex. No.	compound name	MS	class
417	N-cyclohexyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	425 (M + H)	2
418	N-(3-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	444 (M + H)	2
419	N-(2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453 (M + H)	1
420	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,6-dimethylphenyl)urea	447 (M + H)	1
421	N-(3,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	2
422	N-(2,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	455 (M + H)	1
423	N-(2,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	2
424	N-(3,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	1
425	N-(2,3-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	1
426	N-(2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	455 (M + H)	2
427	N-(2,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	3
428	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-dimethylphenyl)urea	447 (M + H)	1
429	ethyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)glycinate	429 (M + H)	3
430	ethyl 3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	491 (M + H)	3
431	ethyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	491 (M + H)	3
432	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-ethylphenyl)urea	447 (M + H)	2
433	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-ethylurea	371 (M + H)	3
434	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-methylphenyl)urea	461 (M + H)	1
435	ethyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)leucinate	485 (M + H)	1
436	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluoro-3-nitrophenyl)urea	482 (M + H)	3
437	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorophenyl)urea	437 (M + H)	1
438	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorophenyl)urea	437 (M + H)	2
439	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorophenyl)urea	437 (M + H)	2

Ex. No.	compound name	MS	class
440	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-isopropylphenyl)urea	461 (M + H)	3
441	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl-methyl]-N'-[1-(3-isopropenylphenyl)-1-methylethyl]urea	501 (M + H)	2
442	methyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)methioninate	489 (M + H)	2
443	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-isopropylurea	385 (M + H)	3
444	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxyphenyl)urea	449 (M + H)	2
445	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methyl-2-nitrophenyl)urea	478 (M + H)	2
446	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxyphenyl)urea	449 (M + H)	2
447	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methoxyphenyl)urea	449 (M + H)	2
448	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(methylthio)phenyl]urea	465 (M + H)	1
449	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxybenzyl)urea	463 (M + H)	3
450	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-1-naphthylurea	469 (M + H)	2
451	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[(2S)-2-phenylcyclopropyl]urea	459 (M + H)	3
452	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-phenylurea	419 (M + H)	1
453	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-phenoxyphenyl)urea	511 (M + H)	3
454	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-pentylurea	413 (M + H)	2
455	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethyl)phenyl]urea	487 (M + H)	1
456	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[3-(trifluoromethyl)phenyl]urea	487 (M + H)	3
457	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylphenyl)urea	433 (M + H)	1
458	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-mesitylurea	461 (M + H)	1
459	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methylphenyl)urea	433 (M + H)	2
460	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylphenyl)urea	433 (M + H)	1
461	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[1-(1-naphthyl)ethyl]urea	497 (M + H)	3
462	methyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)phenylalaninate	505 (M + H)	3

Ex. No.	compound name	MS	class
463	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trichlorophenyl)urea	521 (M + H)	1
464	N-(3-chloro-4-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	3
465	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(1-phenylethyl)urea	447 (M + H)	2
466	1-[4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-3-(1-phenyl-ethyl)-urea	447 (M + H)	2
467	1-[4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-3-(1-naphthalen-1-yl-ethyl)-urea	497 (M + H)	2
468	N-(2,6-diisopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	503 (M + H)	1
469	N-[2-(difluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	485 (M + H)	2
470	methyl 2-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	477 (M + H)	3
471	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(methylthio)phenyl]urea	465 (M + H)	2
472	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,5,6-tetrachlorophenyl)urea	555 (M + H)	2
473	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)-methyl]-N'-(2,3-dimethyl-6-nitrophenyl)urea	492 (M + H)	1
474	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,5-trichlorophenyl)urea	521 (M + H)	3
475	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-tribromophenyl)urea	652 (M + H)	1
476	N-(2,4-dibromo-6-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	593 (M + H)	1
477	N-(2,4-dibromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	575 (M + H)	3
478	N-(2,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	501 (M + H)	2
479	N-(2,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479 (M + H)	3
480	N-(2,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479 (M + H)	2
481	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,5-dimethylphenyl)urea	447 (M + H)	3
482	N-(2,6-dibromo-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	593 (M + H)	1
483	N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487 (M + H)	1
484	N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	475 (M + H)	1
485	N-(2-benzylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	509 (M + H)	3

Ex. No.	compound name	MS	class
486	N-(2-chloro-5-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	2
487	N-(2-chloro-5-nitrophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	498 (M + H)	3
488	N-[2-chloro-6-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	521 (M + H)	1
489	N-(2-chloro-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	1
490	N-(2-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	1
491	ethyl 2-[(({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	491 (M + H)	3
492	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethoxyphenyl)urea	463 (M + H)	?
493	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethyl-6-isopropylphenyl)urea	489 (M + H)	1
494	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethylphenyl)urea	447 (M + H)	1
495	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-fluoro-3-(trifluoromethyl)phenyl]urea	505 (M + H)	3
496	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-fluoro-5-(trifluoromethyl)phenyl]urea	505 (M + H)	3
497	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluoro-5-methylphenyl)urea	451 (M + H)	3
498	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluoro-5-nitrophenyl)urea	482 (M + H)	2
499	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorobenzyl)urea	451 (M + H)	2
500	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-iodophenyl)urea	545 (M + H)	1
501	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)urea	475 (M + H)	1
502	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropylphenyl)urea	461 (M + H)	1
503	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-4-nitrophenyl)urea	494 (M + H)	3
504	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methoxy-5-methylphenyl)urea	463 (M + H)	1
505	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxy-5-nitrophenyl)urea	494 (M + H)	2
506	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-3-nitrophenyl)urea	478 (M + H)	1
507	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-4-nitrophenyl)urea	478 (M + H)	2
508	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-5-nitrophenyl)urea	478 (M + H)	2

Ex. No.	compound name	MS	class
509	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methyl-6-nitrophenyl)urea	478 (M + H)	1
510	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylbenzyl)urea	447 (M + H)	2
511	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-2-naphthylurea	469 (M + H)	3
512	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-nitrophenyl)urea	464 (M + H)	2
513	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-propylphenyl)urea	461 (M + H)	1
514	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-phenoxyphenyl)urea	511 (M + H)	2
515	N-(2-tert-butyl-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	489 (M + H)	1
516	N-(2-tert-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	475 (M + H)	1
517	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[3-(methylthio)phenyl]urea	465 (M + H)	2
518	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{3-[(trifluoromethyl)thio]phenyl}urea	519 (M + H)	3
519	N-1,3-benzodioxol-5-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	463 (M + H)	3
520	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,4,5-trimethoxyphenyl)urea	509 (M + H)	3
521	N-(3,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	501 (M + H)	3
522	N-(3,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	455 (M + H)	1
523	N-(3,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479 (M + H)	3
524	N-(3,5-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	455 (M + H)	1
525	N-(3,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479 (M + H)	2
526	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,5-dimethylphenyl)urea	447 (M + H)	3
527	methyl 3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	477 (M + H)	3
528	N-(3-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	1
529	N-(3-chloro-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	471 (M + H)	1
530	N-(3-chloro-4-methoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	483 (M + H)	3
531	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-ethylphenyl)urea	447 (M + H)	2

Ex. No.	compound name	MS	class
532	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[3-fluoro-5-(trifluoromethyl)phenyl]urea	505 (M + H)	2
533	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorobenzyl)urea	451 (M + H)	2
534	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-phenoxyphenyl)urea	511 (M + H)	3
535	butyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	519 (M + H)	3
536	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(trifluoromethyl)phenyl]urea	487 (M + H)	3
537	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{4-[(trifluoromethyl)thio]phenyl}urea	519 (M + H)	3
538	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4,5-dimethyl-2-nitrophenyl)urea	492 (M + H)	2
539	N-[4-(benzyloxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	525 (M + H)	3
540	N-(4-benzylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	509 (M + H)	3
541	N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	565 (M + H)	2
542	N-(4-bromo-2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	533 (M + H)	1
543	N-(4-bromo-2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	531 (M + H)	3
544	N-(4-bromobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	511 (M + H)	3
545	N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	521 (M + H)	1
546	N-(4-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	2
547	N-(4-chloro-2-nitrophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	498 (M + H)	3
548	N-[4-chloro-3-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	521 (M + H)	3
549	N-(4-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	444 (M + H)	1
550	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-ethoxyphenyl)urea	463 (M + H)	3
551	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluoro-2-nitrophenyl)urea	482 (M + H)	2
552	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-fluoro-3-(trifluoromethyl)phenyl]urea	505 (M + H)	3
553	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorobenzyl)urea	451 (M + H)	2
554	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(heptyloxy)phenyl]urea	533 (M + H)	3

Ex. No.	compound name	MS	class
555	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-iodophenyl)urea	545 (M + H)	2
556	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-methoxy-2-methylphenyl)urea	463 (M + H)	2
557	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxy-2-nitrophenyl)urea	494 (M + H)	3
558	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methyl-3-nitrophenyl)urea	478 (M + H)	2
559	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylbenzyl)urea	447 (M + H)	3
560	N-(4-butoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	491 (M + H)	3
561	N-(4-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	475 (M + H)	3
562	N-biphenyl-4-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	495 (M + H)	3
563	N-(5-chloro-2,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	513 (M + H)	3
564	N-(5-chloro-2-methoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	483 (M + H)	3
565	N-(5-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	467 (M + H)	2
566	N-(5-chloro-2-nitrophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	498 (M + H)	3
567	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(5-fluoro-2-methylphenyl)urea	451 (M + H)	2
568	N-(2,3-dihydro-1H-inden-5-yl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	459 (M + H)	3
569	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-9H-fluoren-2-ylurea	507 (M + H)	3
570	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-9H-fluoren-9-ylurea	507 (M + H)	3
571	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-phenylethyl)urea	447 (M + H)	3
572	N-cyclopentyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	411 (M + H)	2
573	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(diphenylmethyl)urea	509 (M + H)	1
574	methyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	477 (M + H)	3
575	N-[1-(4-bromophenyl)ethyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	525 (M + H)	3
576	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]urea	503 (M + H)	3
577	N-(3-acetylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	477 (M + H)	3

Ex. No.	compound name	MS	class
578	N-(4-acetylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	477 (M + H)	3
579	N-[3,5-bis(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	571 (M + H)	3
580	N-benzyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	449 (M + H)	3
581	N-(3-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	513 (M + H)	3
582	N-(4-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	513 (M + H)	3
583	N-butyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	415 (M + H)	3
584	N-(4-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	460 (M + H)	3
585	N-cyclohexyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	441 (M + H)	3
586	N-cyclopentyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	427 (M + H)	3
587	N-(3-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	469 (M + H)	3
588	N-(4-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	469 (M + H)	3
589	N-(2,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	3
590	N-(2,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	495 (M + H)	3
591	N-(2,5-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	471 (M + H)	3
592	N-(2,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	3
593	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,6-dimethylphenyl)thiourea	463 (M + H)	2
594	N-(3,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	3
595	N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	2
596	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-ethoxyphenyl)thiourea	479 (M + H)	3
597	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-ethyl-6-isopropylphenyl)thiourea	505 (M + H)	2
598	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-furylmethyl)thiourea	439 (M + H)	3
599	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorophenyl)thiourea	453 (M + H)	3
600	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-hexylthiourea	443 (M + H)	3

Ex. No.	compound name	MS	class
601	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(trans-4-propylcyclohexyl)phenyl]-thiourea	559 (M + H)	3
602	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-isobutylthiourea	415 (M + H)	2
603	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-methoxybiphenyl-3-yl)thiourea	541 (M + H)	3
604	N-(1,3-benzodioxol-5-ylmethyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	493 (M + H)	2
605	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methylphenyl)thiourea	449 (M + H)	3
606	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[4-(methylthio)phenyl]thiourea	481 (M + H)	3
607	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxyphenyl)thiourea	465 (M + H)	3
608	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methylprop-2-en-1-yl)thiourea	413 (M + H)	3
609	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxyphenyl)thiourea	465 (M + H)	3
610	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-methylthiourea	373 (M + H)	3
611	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-1-naphthylthiourea	485 (M + H)	3
612	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-nitrophenyl)thiourea	480 (M + H)	3
613	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-nitrophenyl)thiourea	480 (M + H)	2
614	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(1,1,3,3-tetramethylbutyl)thiourea	471 (M + H)	3
615	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-phenylthiourea	435 (M + H)	3
616	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(pentafluorophenyl)thiourea	525 (M + H)	2
617	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-propylthiourea	401 (M + H)	3
618	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[3-(trifluoromethyl)phenyl]thiourea	503 (M + H)	3
619	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(3,4,5-trimethoxyphenyl)thiourea	525 (M + H)	3
620	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(tetrahydrofuran-2-ylmethyl)thiourea	443 (M + H)	2
621	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylphenyl)thiourea	449 (M + H)	3
622	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylphenyl)thiourea	449 (M + H)	3
623	N-(tert-butyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	415 (M + H)	3

Ex. No.	compound name	MS	class
624	N-1-adamantyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	493 (M + H)	3
625	N-(2-bromophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	513 (M + H)	3
626	N-(2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	469 (M + H)	3
627	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-phenylethyl)thiourea	463 (M + H)	3
628	N-(3,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	495 (M + H)	3
629	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-ethylphenyl)thiourea	463 (M + H)	3
630	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(methylthio)phenyl]thiourea	481 (M + H)	3
631	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]thiourea	519 (M + H)	2
632	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-(trifluoromethyl)phenyl]thiourea	503 (M + H)	3
633	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3,4-trifluorophenyl)thiourea	489 (M + H)	2
634	N-(2,3-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	3
635	N-(2,4-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	471 (M + H)	3
636	N-(2,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	495 (M + H)	3
637	N-(2,6-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	471 (M + H)	3
638	N-(2-chloro-4-nitrophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	514 (M + H)	3
639	N-[2-(difluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	501 (M + H)	3
640	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethylphenyl)thiourea	463 (M + H)	2
641	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-fluoro-5-(trifluoromethyl)phenyl]-thiourea	521 (M + H)	3
642	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorophenyl)thiourea	453 (M + H)	3
643	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-iodophenyl)thiourea	561 (M + H)	3
644	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methoxy-4-nitrophenyl)thiourea	510 (M + H)	3
645	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methoxy-5-methylphenyl)thiourea	479 (M + H)	3
646	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{3-[(trifluoromethyl)thio]phenyl}thiourea	535 (M + H)	3

Ex. No.	compound name	MS	class
647	N-(3,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	503 (M + H)	3
648	N-(3,5-difluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	471 (M + H)	3
649	N-(3-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	460 (M + H)	3
650	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorophenyl)thiourea	453 (M + H)	3
651	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-iodophenyl)thiourea	561 (M + H)	3
652	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methoxyphenyl)thiourea	465 (M + H)	3
653	N-[4-(difluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	501 (M + H)	3
654	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(trifluoromethoxy)phenyl]thiourea	519 (M + H)	3
655	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(trifluoromethyl)phenyl]thiourea	503 (M + H)	3
656	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{4-[(trifluoromethyl)thio]phenyl}thiourea	535 (M + H)	3
657	N-(4-bromo-2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	547 (M + H)	3
658	N-(4-bromo-2-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	531 (M + H)	3
659	N-[4-chloro-3-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	537 (M + H)	3
660	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclo-hexyl)methyl]-N'-[4-fluoro-3-(trifluoromethyl)phenyl]thiourea	521 (M + H)	3
661	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-iodophenyl)thiourea	561 (M + H)	3
662	N-(5-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	2
663	N-[(1S,4R)-bicyclo[2.2.1]hept-2-yl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	453 (M + H)	2
664	tert-butyl {4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonothioyl)amino]phenyl}-carbamate	550 (M + H)	3
665	N-[2-(3,4-dimethoxyphenyl)ethyl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	523 (M + H)	2
666	N-[2-(4-chlorophenyl)ethyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	497 (M + H)	3
667	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2,3,4,5-tetrachlorophenyl)thiourea	571 (M + H)	3
668	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,5-trichlorophenyl)thiourea	537 (M + H)	3
669	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-tribromophenyl)thiourea	668 (M + H)	2

Ex. No.	compound name	MS	class
670	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trichlorophenyl)thiourea	537 (M + H)	2
671	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,6-trifluorophenyl)thiourea	489 (M + H)	3
672	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-mesitylthiourea	477 (M + H)	2
673	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4-dimethylphenyl)thiourea	463 (M + H)	3
674	N-(2,6-diethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	491 (M + H)	1
675	N-(2,6-diisopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	519 (M + H)	2
676	N-(2-bromo-4-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	527 (M + H)	3
677	N-[2-chloro-5-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	537 (M + H)	3
678	N-(2-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
679	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-ethyl-6-methylphenyl)thiourea	477 (M + H)	2
680	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-isopropylphenyl)thiourea	477 (M + H)	2
681	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[3-(methylthio)phenyl]thiourea	481 (M + H)	3
682	N-(3,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	517 (M + H)	3
683	N-(3,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	495 (M + H)	3
684	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,5-dimethylphenyl)thiourea	463 (M + H)	3
685	N-[3-(benzyloxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	541 (M + H)	3
686	3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzoic acid	479 (M + H)	3
687	N-(3-chloro-4-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
688	methyl 3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzoate	493 (M + H)	3
689	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-phenylpropyl)thiourea	477 (M + H)	3
690	N-[4-(benzyloxy)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	541 (M + H)	3
691	N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	541 (M + H)	1
692	N-(4-bromo-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	527 (M + H)	3

Ex. No.	compound name	MS	class
693	N-[4-bromo-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	581 (M + H)	2
694	N-(4-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
695	N-(4-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
696	ethyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzoate	507 (M + H)	3
697	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[1-(4-fluorophenyl)ethyl]thiourea	481 (M + H)	2
698	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-fluorobenzyl)thiourea	467 (M + H)	3
699	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-isopropylphenyl)thiourea	477 (M + H)	3
700	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-methoxy-2-nitrophenyl)thiourea	510 (M + H)	3
701	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methoxybenzyl)thiourea	479 (M + H)	3
702	methyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzoate	493 (M + H)	3
703	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-methyl-2-nitrophenyl)thiourea	494 (M + H)	3
704	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-methylbenzyl)thiourea	463 (M + H)	3
705	N-(4-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	491 (M + H)	3
706	N-(5-chloro-2-methoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	499 (M + H)	2
707	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(1-phenylethyl)thiourea	463 (M + H)	3
708	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(diphenylmethyl)thiourea	525 (M + H)	2
709	N-cyclododecyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	525 (M + H)	2
710	N-(cyclohexylmethyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	455 (M + H)	2
711	N-cyclooctyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	469 (M + H)	3
712	N-cyclopropyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	399 (M + H)	3
713	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(1-naphthylmethyl)thiourea	499 (M + H)	3
714	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,2-diphenylethyl)thiourea	539 (M + H)	3
715	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2,3,5,6-tetrachlorophenyl)thiourea	571 (M + H)	1

Ex. No.	compound name	MS	class
716	N-(2,3-dimethoxybenzyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	509 (M + H)	2
717	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,4,5-trimethylphenyl)thiourea	477 (M + H)	3
718	N-(2,4-dichlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	517 (M + H)	2
719	N-(2,5-dibromophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	591 (M + H)	3
720	N-[2-(2,5-dimethoxyphenyl)ethyl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	523 (M + H)	3
721	N-biphenyl-2-yl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	511 (M + H)	3
722	N-(2-chloro-5-nitrophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	514 (M + H)	3
723	N-(2-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	460 (M + H)	3
724	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-fluorobenzyl)thiourea	467 (M + H)	3
725	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methoxy-5-nitrophenyl)thiourea	510 (M + H)	2
726	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-methyl-4-nitrophenyl)thiourea	494 (M + H)	3
727	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methylbenzyl)thiourea	463 (M + H)	3
728	N-(3,4-dimethoxybenzyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	509 (M + H)	3
729	N-(3-chlorobenzyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
730	ethyl 3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzoate	507 (M + H)	3
731	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-ethylphenyl)thiourea	463 (M + H)	3
732	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-fluorobenzyl)thiourea	467 (M + H)	3
733	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methoxybenzyl)thiourea	479 (M + H)	3
734	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methylbenzyl)thiourea	463 (M + H)	3
735	N-(4-bromo-3-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	547 (M + H)	3
736	N-(4-bromo-3-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	527 (M + H)	3
737	N-[4-chloro-2-(trifluoromethyl)phenyl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	537 (M + H)	3
738	N-(4-decylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	575 (M + H)	3

Ex. No.	compound name	MS	class
739	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-fluoro-2-methylphenyl)thiourea	467 (M + H)	3
740	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(4-nitrophenoxy)phenyl]thiourea	572 (M + H)	3
741	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{4-[(4-nitrophenyl)thio]phenyl}thiourea	588 (M + H)	3
742	4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]amino}carbonothioyl)amino]benzene-sulfonamide	514 (M + H)	3
743	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(4-methoxy-2-methylphenyl)thiourea	479 (M + H)	2
744	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[2-(4-methylphenyl)ethyl]thiourea	477 (M + H)	3
745	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-phenoxyphenyl)thiourea	527 (M + H)	3
746	N-(5-chloro-2,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	529 (M + H)	3
747	N-(2,3-dihydro-1H-inden-5-yl)-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	475 (M + H)	3
748	N-cycloheptyl-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	455 (M + H)	3
749	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[(1R)-1-phenylethyl]thiourea	463 (M + H)	3
750	butyl 2-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]benzoate	519 (M + H)	3
751	dimethyl 5-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]isophthalate	535 (M + H)	3
752	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(trifluoromethoxy)phenyl]urea	503 (M + H)	3
753	N-(4-bromo-2,6-dimethylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	525 (M + H)	1
754	N-(4-bromo-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	511 (M + H)	2
755	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2,2,4,4-tetrafluoro-4H-1,3-benzodioxin-6-yl)urea	549 (M + H)	3
756	ethyl N-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)phenylalaninate	519 (M + H)	3
757	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(2-thienyl)ethyl]urea	453 (M + H)	3
758	N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	477 (M + H)	3
759	N-(2,6-dibromo-4-isopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	617 (M + H)	2
760	N-(2-cyanophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	444 (M + H)	3

Ex. No.	compound name	MS	class
761	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-2-thienylurea	425 (M + H)	3
762	N-[3-(cyclopentyloxy)-4-methoxyphenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	533 (M + H)	3
763	N-(3,4-dihydro-2H-1,5-benzodioxepin-7-yl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	491 (M + H)	3
764	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-3-thienylurea	425 (M + H)	2
765	N-(4-tert-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	475 (M + H)	3
766	N-(4-butyl-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	489 (M + H)	3
767	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[5-methyl-2-(trifluoromethyl)-3-furyl]urea	491 (M + H)	1
768	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(5-phenyl-2-thienyl)urea	501 (M + H)	3
769	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(6-fluoro-4H-1,3-benzodioxin-8-yl)urea	495 (M + H)	2
770	benzyl 4-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonyl)amino]piperidine-1-carboxylate	560 (M + H)	3
771	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(6-methyl-1,3-benzothiazol-2-yl)-phenyl]urea	566 (M + H)	3
772	N-[4-(dimethylamino)phenyl]-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	462 (M + H)	3
773	N-(2,6-dichloropyridin-4-yl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	488 (M + H)	3
774	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,5-dimethylisoxazol-4-yl)urea	438 (M + H)	2
775	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(3-methyl-5-phenylisoxazol-4-yl)urea	500 (M + H)	1
776	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(5-methyl-3-phenylisoxazol-4-yl)urea	500 (M + H)	2
777	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-prop-2-yn-1-ylthiourea	397 (M + H)	3
778	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(piperidin-1-ylsulfonyl)phenyl]thiourea	582 (M + H)	3
779	N-(2-cyclohex-1-en-1-ylethyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	467 (M + H)	3
780	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,3-dimethylphenyl)thiourea	463 (M + H)	3
781	N-(2,4-dibromo-6-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	609 (M + H)	2
782	N-(2,4-dichloro-6-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	517 (M + H)	2

Ex. No.	compound name	MS	class
783	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2,5-dimethylphenyl)thiourea	463 (M + H)	2
784	N-(2-bromo-4-isopropylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	555 (M + H)	3
785	N-(2-bromo-5-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	531 (M + H)	3
786	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethoxyphenyl)thiourea	479 (M + H)	2
787	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(2-isopropyl-6-methylphenyl)thiourea	491 (M + H)	1
788	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxybenzyl)thiourea	479 (M + H)	3
789	N-(2,3-dihydro-1,4-benzodioxin-6-yl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	493 (M + H)	3
790	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3,4-dimethylphenyl)thiourea	463 (M + H)	3
791	N-1,3-benzodioxol-5-yl-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	479 (M + H)	3
792	N-(3-chloro-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	483 (M + H)	3
793	N-[4-bromo-2-(trifluoromethoxy)phenyl]-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]-thiourea	597 (M + H)	2
794	N-(4-chloro-2,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	529 (M + H)	3
795	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(4-phenylbutyl)thiourea	491 (M + H)	3
796	N-(4-tert-butylphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	491 (M + H)	3
797	N-(5-chloro-2-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	487 (M + H)	3
798	N-bicyclo[2.2.1]hept-2-yl-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	453 (M + H)	2
799	N-bicyclo[2.2.1]hept-5-en-2-yl-N'-[(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	451 (M + H)	2
800	N-(cyclopropylmethyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	413 (M + H)	2
801	ethyl 2-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonothioyl)amino]-4,5,6,7-tetrahydro-1-benzothiophene-3-carboxylate	567 (M + H)	3
802	methyl 3-[({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]amino}carbonothioyl)amino]-thiophene-2-carboxylate	499 (M + H)	3
803	N-(2-bromo-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	531 (M + H)	3
804	N-(3-chloro-4-fluorophenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	487 (M + H)	3

Ex. No.	compound name	MS	class
805	N-(4-butyl-2-methylphenyl)-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	505 (M + H)	3
806	N-[4-(dimethylamino)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	478 (M + H)	3
807	N-[3-(diethylamino)propyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	472 (M + H)	3
808	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-morpholin-4-ylethyl)thiourea	472 (M + H)	3
809	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-pyridin-3-ylthiourea	436 (M + H)	3
810	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(3-morpholin-4-ylpropyl)thiourea	486 (M + H)	3
811	N-[4-(diethylamino)phenyl]-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	506 (M + H)	3
812	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-{4-[(E)-phenyldiazenyl]phenyl}thiourea	539 (M + H)	3
813	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-piperidin-1-ylethyl)thiourea	470 (M + H)	3
814	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(1H-pyrazol-1-yl)phenyl]thiourea	501 (M + H)	3
815	N-2,1,3-benzothiadiazol-4-yl-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	493 (M + H)	3
816	N-2,1,3-benzothiadiazol-5-yl-N'-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]thiourea	493 (M + H)	3
817	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(3,5-dimethylisoxazol-4-yl)thiourea	454 (M + H)	3
818	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-[4-(1,3-oxazol-5-yl)phenyl]thiourea	502 (M + H)	3
819	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(5-methyl-3-phenylisoxazol-4-yl)-thiourea	516 (M + H)	2
820	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)methyl]-N'-(6-morpholin-4-ylpyridin-3-yl)thiourea	521 (M + H)	3
821	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(6-phenoxypyridin-3-yl)thiourea	528 (M + H)	3
822	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluoro-2-nitrophenyl)urea	468 (M + H)	2
823	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-fluoro-3-(trifluoromethyl)phenyl]urea	491 (M + H)	3
824	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-fluorobenzyl)urea	437 (M + H)	1
825	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[4-(heptyloxy)phenyl]urea	519 (M + H)	3
826	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-iodophenyl)urea	531 (M + H)	2
827	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-methylphenyl)urea	449 (M + H)	1

Ex. No.	compound name	MS	class
828	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methoxy-2-nitrophenyl)urea	480 (M + H)	3
829	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methyl-3-nitrophenyl)urea	464 (M + H)	3
830	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(4-methylbenzyl)urea	433 (M + H)	2
831	N-(4-butoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	477 (M + H)	3
832	N-(4-butylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	461 (M + H)	3
833	N-biphenyl-4-yl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	481 (M + H)	3
834	N-(5-chloro-2,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	499 (M + H)	1
835	N-(5-chloro-2-methoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	469 (M + H)	3
836	N-(5-chloro-2-methylphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	453 (M + H)	3
837	N-(5-chloro-2-nitrophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	484 (M + H)	3
838	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(5-fluoro-2-methylphenyl)urea	437 (M + H)	2
839	N-(2,3-dihydro-1H-inden-5-yl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	445 (M + H)	3
840	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-9H-fluoren-2-ylurea	493 (M + H)	3
841	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-9H-fluoren-9-ylurea	493 (M + H)	2
842	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(2-phenylethyl)urea	433 (M + H)	2
843	N-cyclopentyl-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	397 (M + H)	2
844	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-(diphenylmethyl)urea	495 (M + H)	1
845	methyl 4-({[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)amino]carbonyl}amino)benzoate	463 (M + H)	3
846	2-(benzyloxy)ethyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	464 (M + H)	2
847	2,2-dimethylpropyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	400 (M + H)	3
848	4,5-dimethoxy-2-nitrobenzyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	525 (M + H)	1
849	3-(trifluoromethyl)phenyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	474 (M + H)	3
850	4-bromophenyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	484 (M + H)	3

Ex. No.	compound name	MS	class
851	2-methoxyphenyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	436 (M + H)	3
852	2-methoxyethyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	388 (M + H)	3
853	octyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	442 (M + H)	3
854	ethyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	358 (M + H)	3
855	4-nitrobenzyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	465 (M + H)	1
856	2-naphthyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	456 (M + H)	3
857	allyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	370 (M + H)	3
858	benzyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	420 (M + H)	2
859	phenyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	406 (M + H)	3
860	(1R,2S,5R)-2-isopropyl-5-methylcyclohexyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	468 (M + H)	3
861	4-methylphenyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	420 (M + H)	3
862	methyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	344 (M + H)	3
863	2-chlorobenzyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	454 (M + H)	2
864	9H-fluoren-9-ylmethyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	508 (M + H)	3
865	2,2,2-trichloroethyl (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)carbamate	460 (M + H)	3
866	2-(benzyloxy)ethyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	478 (M + H)	3
867	2,2-dimethylpropyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	414 (M + H)	3
868	4,5-dimethoxy-2-nitrobenzyl [(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	539 (M + H)	3
869	3-(trifluoromethyl)phenyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	488 (M + H)	3
870	4-bromophenyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	498 (M + H)	3
871	2-methoxyphenyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	450 (M + H)	3
872	2-methoxyethyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	402 (M + H)	3
873	octyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	456 (M + H)	3

Ex. No.	compound name	MS	class
874	ethyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	372 (M + H)	3
875	4-nitrobenzyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	479 (M + H)	2
876	2-naphthyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	470 (M + H)	3
877	allyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	384 (M + H)	3
878	benzyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	434 (M + H)	2
879	phenyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	420 (M + H)	3
880	(1R,2S,5R)-2-isopropyl-5-methylcyclohexyl [(cis-4-{[4-(dimethyl-amino)quinazolin-2-yl]amino}cyclohexyl)methyl] carbamate	482 (M + H)	3
881	4-methylphenyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	434 (M + H)	3
882	methyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	358 (M + H)	3
883	2-chlorobenzyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	468 (M + H)	2
884	9H-fluoren-9-ylmethyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	522 (M + H)	3
885	2,2,2-trichloroethyl [(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]carbamate	474 (M + H)	3

Example 886

N-(*cis*-4-{[4-(Dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-2,2-diphenylacetamide trifluoroacetate

Step A: Synthesis of 6-methyl-1 *H*-quinazoline-2,4-dione.

To a suspension of 2-amino-5-methylbenzoic acid (5.27 g, 0.035 mol) in 150 mL H_2O and 2 mL acetic acid was added potassium cyanate (3.67 g, 0.045 mol) predissolved in 30 mL H_2O. The reaction mixture was stirred for 5 hours and then 10 g NaOH pellets were added with continued stirring. The mixture was cooled to 0 °C in an ice bath and another 30 g NaOH pellets were added. During the addition of NaOH a precipitate was formed. This precipitate was filtered and resuspended in 100 mL H_2O and 3M HCl was added by pipette until the aqeous solution was slightly acidic. The precipitate was then filtered and washed with ice cold H_2O to yield 6-methyl-1 *H*-quinazoline-2,4-dione (2.29 g, 37%) as an off white solid.

ESI-MS m/e 177.1 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.18 (s, 1 H), 11.02 (s, 1 H), 7.66 (s, 1 H), 7.45 (d, J = 8.4 Hz, 1 H), 7.05 (d, J = 8.4 Hz, 1 H), 2.31 (s, 3H).

Step B: Synthesis of 2,4-dichloro-6-methyl-quinazoline.

To a solution of 6-methyl-1 *H*-quinazoline-2,4-dione (2.29 g, 0.013 mol) in 20 mL $POCl_3$ was added *N*, *N*-dimethylaniline (1.81 mL, 0.014 mol). The mixture was heated to reflux (125 °C) and stirred for 4 hours until the starting material completely dissolved and the solution turned dark purple in color. The solution was then cooled and poured slowly on ice (40 g; caution highly exothermic) to quench the reaction. The aqueous layer was then extracted three times with CH_2Cl_2 (40 mL). The organic layer was dried over $MgSO_4$, concentrated, and subjected to purification by chromatography (100% CH_2Cl_2) to yield 2,4-dichloro-6-methyl-quinazoline (2.5 g, 90 %) as a slightly yellow solid. ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.05 (s, 1H), 8.01 (d, J = 9.2 Hz, 1 H), 7.94 (d, J = 8.8 Hz, 1 H), 2.57 (s, 3 H).

Step C: Synthesis of (2-chloro-6-methly-quinazolin-4-yl)-dimethyl-amine.

A solution of 2,4-dichloro-6-methyl-quinazoline (2.5 g, 0.012 mol) in CH_2Cl_2 (100 mL) was cooled on an ice bath with stirring. Dimethylamine (23.5 mL, 0.047 mol) was added slowly to the solution removed from the ice bath. The mixture stirred for 1 hour and the excess solvents were evaporated. The compound was subject to purification by chromatography (100 % CH_2Cl_2) to yield (2-chloro-6-methly-quinazolin-4-yl)-dimethyl-amine (2.4 g, 92%) as a white solid.

ESI-MS m/e 222.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 7.96 (s, 1 H), 7.61 (d, J = 8 Hz, 1 H), 7.54 (d, J = 8.4 Hz, 1 H), 3.34 (brs, 6 H), 2.45 (s, 3 H).

Step D: Synthesis of *cis*-[4-(4-dimethylamino-6-methyl-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid *tert*-butyl ester.

To a solution of (2-chloro-6-methly-quinazolin-4-yl)-dimethyl-amine (0.5 g, 0.0023 mol) in 0.5 mL 2-propanol was added of *cis*-(4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester(483mg, 0.0023mol), and DIEA (786 uL, 0.0045 mol). The reaction mixture was heated in a microwave synthesizer at 170° C for 1 hour. The solvent was evaporated and the material subjected to chromatography (2-4 % 2M NH_3 in MeOH / CH_2Cl_2) to yield *cis*-[4-(4-dimethylamino-6-methyl-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid *tert*-butyl ester (850 mg, 94 %) as a white solid.

ESI-MS m/e 400.4 M + H^+ ; ^1H NMR (400 MHz, CD_3OD) δ 7.68 (s, 1 H), 7.37 (d, J = 8.4 Hz, 1 H), 7.28 (d, J = 8.4 Hz, 1 H), 4.05 (m, 1 H), 3.54 (brs, 1 H), 3.26 (s, 6 H), 2.38 (s, 3 H), 1.76-1.59 (m, 8 H), 1.44 (s, 9 H).

Step E: Synthesis of *cis*-N^2-(4-amino-cyclohexyl)-6,N^4,N^4-trimethyl-quinazoline-2,4-diamine.

To a solution of *cis*-[4-(4-dimethylamino-6-methyl-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid *tert*-butyl ester (850 mg, 0.0021 mol) in 30 mL CH_2Cl_2 was added TFA (325 uL, 0.042 mol). The solution was stirred at room temperature for 4 hours. The excess solvent was evaporated off and the resulting oil was

dissolved in 30 mL CH_2Cl_2. The organic layer was extracted with 30 mL of a dilute NaOH (aq) / $NaHCO_3$ (aq) solution. The aqueous layer was back extracted twice with CH_2Cl_2 and the organic layers combined, dried over $MgSO_4$, and concentrated to yield *cis*-N^2-(4-amino-cyclohexyl)-6,N^4,N^4-trimethyl-quinazoline-2,4-diamine (459 mg, 72 %) as a white solid.

ESI-MS m/e 300.2 M + H^+ ; ^{1}H NMR (400 MHz, CD_3OD) δ 7.69 (s, 1 H), 7.38 (d, J = 8.4 Hz, 1 H), 7.30 (d, J = 8.8 Hz, 1 H), 4.07 (m, 1 H), 3.27 (s, 6 H), 2.85 (m, 1 H), 2.39 (s, 3 H), 1.84-1.70 (m, 6 H), 1.57-1.52 (m, 2 H).

Step F: Synthesis of *N*-(*cis*-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}-cyclohexyl)-2,2-diphenylacetamide trifluoroacetate

To a solution of *cis*-N^2-(4-amino-cyclohexyl)-6,N^4,N^4-trimethyl-quinazoline-2,4-diamine (24.9 mg, 0.083 mmol) in 0.5 mL DMF was added pyridine (16.2 uL, 0.2 mmol) and diphenylacetyl chloride (23.0 mg, 0.1 mmol). The reaction mixture was stirred overnight and then 0.5 mL of DMSO was added to the mixture. The compound was then subject to purification by prep LCMS to yield *N*-(*cis*-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino} cyclohexyl)-2,2-diphenylacetamide trifluoroacetate (13.6 mg, 27%) as a white solid.

ESI-MS m/e 494.4 M + H^+ ; ^{1}H NMR (400 MHz, CD_3OD) δ 7.96 (s, 1 H), 7.63 (d, J = 8.4 Hz, 1 H), 7.31-7.23 (m, 11 H), 4.16 (brs, 1 H), 3.89 (brs, 1 H), 3.54 (brs, 6 H), 2.66 (s, 1 H), 2.47 (s, 3 H), 1.86-1.79 (m, 8 H).

Example 887

***N*-(*cis*-4-{[4-(Dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-4-fluoro-3-(trifluoromethyl)benzamide trifluoroacetate**

Step A: Synthesis of *N*-(*cis*-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}-cyclohexyl)-4-fluoro-3-(trifluoromethyl)benzamide trifluoroacetate.

Using a similar procedure as described in step F of Example 886, the title compound was obtained (12.5 mg, 25%) as a white solid.

ESI-MS m/e 490.2 M + H$^+$; ^{1}H NMR (400 MHz, CD_3OD) δ 8.19-8.15 (m, 2 H), 7.98 (s, 1 H), 7.64 (d, J = 8.4 Hz, 1 H), 7.49 (t, J = 9.2 Hz, 1 H), 7.44 (brs, 1 H), 4.24 (brs, 1 H), 4.03 (brs, 1 H), 3.56 (s, 6 H), 2.47 (s, 3 H), 2.01-1.81 (m, 8 H).

Example 888

N-(cis-4-{[4-(Dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-3,5-bis(trifluoromethyl)benzamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}-cyclohexyl)-3,5-bis(trifluoromethyl)benzamide trifluoroacetate.

Using a similar procedure as described in step F of Example 886, the title compound was obtained (18.4 mg, 0.028 mmol, 34%) as a white solid.

ESI-MS m/e 540.4 M + H$^+$; ^{1}H NMR (400 MHz, CD_3OD) δ 8.53 (s, 2 H), 8.18 (s, 1 H), 7.97 (s, 1 H), 7.64 (d, J = 8.4 Hz, 1 H), 7.37 (brs, 1 H), 4.26 (brs, 1 H), 4.07 (brs, 1 H), 3.56 (brs, 6 H), 2.47 (s, 3 H), 2.07-1.32 (m, 8 H).

Example 889

N-(cis-4-{[4-(Dimethylamino)-6-methylquinazolin-2-yl]amino}cyclohexyl)-3,4,5-trimethoxybenzamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)-6-methylquinazolin-2-yl]amino}-cyclohexyl)-3,4,5-trimethoxybenzamide trifluoroacetate.

Using a similar procedure as described in step F of Example 886, the title compound was obtained (21.2 mg, 0.035 mmol, 42%) as a white solid.

ESI-MS m/e 494.4 M + H$^+$; ^{1}H NMR (400 MHz, CD_3OD) δ 7.98 (s, 1 H), 7.64 (d, J = 8.4 Hz, 1 H), 7.37 (brs, 1 H), 7.17 (s, 2 H), 4.28 (brs, 1 H), 4.02 (brs, 1 H), 3.91 (s, 6 H), 3.82 (s, 3 H), 3.63 (brs, 6 H), 2.47 (s, 3 H), 2.07-1.81 (m, 8 H).

Example 390

cis-4-{[4-(Dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methylbenzyl)cyclohexane carboxamide trifluoroacetate

Step A: Synthesis of 6,7-difluoro-1H-quinazoline-2,4-dione.

A solution of KOCN (6.1 g, 75 mmol) in H_2O (52 mL) was added to a solution of 2-amino-4,5-difluoro benzoic acid (10 g, 58 mmol) in H_2O/AcOH (260 mL/3.5 mL). The mixture was stirred overnight at room temperature, and then NaOH (55 g, 1.37 mol) was slowly added in a portion of 3~4 grams. During the addition of NaOH, the reaction was changed to a clear purple solution, and then formation of precipitates was observed. After stirring about 10 min, the precipitates were filtered and resuspended in H_2O. The aqueous suspension was acidified to pH 4 with 4N-HCl and stirred for another 10 more min. The precipitates were filtered and washed with cold water and dried to give 7.0 g (61 %) of 6,7-difluoro-1H-quinazoline-2,4-dione.

ESI MS m/e 199 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.46 (s, 1 H), 11.26 (s, 1 H), 7.81 (dd, J = 10.0, 8.4 Hz, 1 H), 7.08 (dd, J = 11.2, 6.8 Hz, 1 H).

Step B: Synthesis of 2,4-dichloro-6,7-difluoroquinazoline.

To a suspension of 6,7-difluoro-1H-quinazoline-2,4-dione (6.9 g, 35 mmol) in $POCl_3$ (21 mL) was slowly added N,N-dimethylaniline (4.9 mL, 35 mmol). The reaction was heated at reflux (120 °C) for 7 h until the starting material was completely dissolved and the entire solution turned a dark purple color. The reaction was allowed to cool and poured very slowly onto ice (1 L); watch out for heat generation!! The resulting precipitate was filtered and washed with ice water. The crude product was purified from a short column of silica with CH_2Cl_2 as an eluting solvent. The desired product (7.2

88 %) was obtained as a white solid.

ESI MS m/e 236 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 8.01 (dd, J = 9.2, 8.0 Hz, 1 H), 7.76 (dd, J = 10.0, 7.2 Hz, 1 H).

Step C: Synthesis of 2-chloro-6,7-difluoro-4-dimethylaminoquinazoline.

A solution of 2, 4-dichloro-6,7-difluoro quinazoline (6.1 g, 26 mmol) in THF (60 mL) was cooled to 2~4 °C in an ice bath and 2M-Me_2NH in MeOH (25 mL, ~2 eq.) was slowly added. The reaction was stirred for 70 min. at room temperature, neutralized with saturated aqueous $NaHCO_3$, and concentrated until the most volatile solvent was removed. Addition of water into the concentrated crude reaction mixture gave solid precipitate, which was filtered and dried.

2-Chloro-6,7-difluoro-4-dimethylaminoquinazoline pure compound (5.6 g, 90 %) was isolated as a yellowish white solid from a short column of silica using CH_2Cl_2/MeOH (100/0 to 90/10) as an eluting solvent.

ESI MS m/e 244 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.78 (dd, J = 11.2, 8.0 Hz, 1 H), 7.50 (dd, J = 11.2, 80 Hz, 1 H), 3.40 (s, 6 H).

Step D: Synthesis of *cis*-4-(4-dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexane-carboxylic acid ethyl ester.

A suspended solution of 2-chloro-6,7-difluoro-4-dimethylamino quinazoline (0.45 g, 1.85 mmol) and *cis*-(4-ethoxycarbonyl) aminocyclohexane hydrochloride (0.38 g, 1eq.) in IPA (2.5 mL) and DIEA (0.5 mL, ~2eq.) was reacted for 2 h at 155 °C in a Smith microwave synthesizer. The reaction was quenched and purified by column chromatography (DCM:MeOH = 100:0 to 90:10) to give 0.25 g (36 %) of *cis*-4(4-dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexanecarboxylic acid ethyl ester.

ESI MS m/e 379 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.57 (dd, J = 11.0, 8.0 Hz, 1 H), 7.17 (dd, J = 12.0, 7.0 Hz, 1H), 4.96 (d, J = 7.0 Hz, 1 H), 4.15 (q, J = 7.0 Hz, 2 H), 4.13 (brs, 1 H), 3.23 (s, 6 H), 2.48 (m, 1 H), 1.94 (m, 2 H), 1.83-1.68 (m, 6 H), 1.25 (t, J = 7.0 Hz, 3 H).

Step E: Synthesis of

***cis*-4-(4-dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexanecarboxylic acid.**

A suspension of *cis*-4(4-dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl ester (0.71 g, 1.9 mmol) in 4 N-HCl (15 mL) was stirred at 82 °C for 3 h. During the reaction, the heterogenous solution turned to be a clear solution, and then the precipitate was formed. The solid was filtered, washed with cold water several times, and dried to give 0.55 g (85 %) of *cis*-4(4-dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexane carboxylic acid as a white solid.

ESI MS m/e 351 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 12.15 (brs, 1 H), 8.18 (m, 2 H), 7.47 (m, 1 H), 3.99 (brs, 1 H), 3.38 (s, 6 H), 2.38 (brs, 1 H), 1.75-1.59 (m, 8 H).

Step F: Synthesis of

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methylbenzyl)cyclohexane carboxamide trifluoroacetate.

cis-4(4-Dimethylamino-6,7-difluoroquinazolin-2-ylamino)-cyclohexane carboxylic acid (21 mg, 0.06 mmol) and 4-methylbenzyl amine (7.5 mg, 0.06 mmol) was stirred overnight in the presence of HATU (25 mg, 1.1 eq.) and Et_3N (5 drops).

cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methylbenzyl)cyclohexanecarboxamide trifluoroacetate (13 mg, 39 %) was obtained from a prep-HPLC.

ESI MS m/e 454 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 11.9 (brs, 1 H), 8.19 (m, 2 H), 8.10 (b, 1 H), 7.49 (m, 1 H), 7.05 (s, 4 H), 4.16 (d, J = 6.0 Hz, 2 H), 4.08 (brs, 1 H), 3.39 (s, 6 H), 2.26 (m, 1 H), 2.20 (s, 3 H), 1.71-1.57 (m, 8 H).

Example 891

cis-N-(3-Chlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexane carboxamide trifluoroacetate

Step A: Synthesis of cis-1-(3-chlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide trifluoroacetate.

Using a similar procedure as described in step F of Example 890, the title compound was obtained.

ESI MS m/e 474 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.1 (brs, 1 H), 8.31 (t, J = 7.6 Hz, 1 H), 8.19 (m, 2 H), 7.49 (t, J = 8.0 Hz, 1 H), 7.30-7.21 m, 3 H), 7.13 (d, J = 7.6 Hz, 1 H), 4.21 (d, J = 6.0 Hz, 2 H), 4.08 (brs, 1 H), 3.44 (s, 6 H), 2.29 (brs, 1 H), 1.85-1.59 (m, 8 H).

Example 892

***cis*-4-{[4-(Dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-*N*-[(1*R*)-1-(3-methoxyphenyl)ethyl]cyclohexanecarboxamide trifluoroacetate**

Step A: Synthesis of *cis*-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-*N*-[(1*R*)-1-(3-methoxyphenyl)ethyl]cyclohexanecarboxamide trifluoroacetate.

Using a similar procedure as described in step F of Example 890, the title compound was obtained.

ESI MS m/e 484 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.8 (brs, 1 H), 8.19 (m, 1 H), 8.12 (m, J = 8.0 Hz, 1 H), 8.07 (brs, 1 H), 7.49 (t, J = 8.0 Hz, 1 H), 7.14 (t, J = 8.0 Hz, 1 H), 6.80 (d, J = 7.6 Hz, 1 H), 6.79 (s, 1H), 6.70 (d, J = 7.6 Hz, 1 H), 4.82 (m, 1 H), 4.03 (brs, 1 H), 3.66 (s, 3 H), 3.37 (s, 6 H), 2.26 (brs, 1 H), 1.69-.1.52 (m, 8 H), 1.23 (d, J = 7.2 Hz, 3 H).

Example 893

***N*-(3,4-Dimethoxyphenyl)-*N'*-(*cis*-4-{[4-(dimethylamino)quinazolin-2-yl]amino)-**

cyclohexyl)urea trifluoroacetate

Step A: Synthesis of *cis*-(4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid *tert*-butyl ester.

To a suspension of *cis*-4-*tert*-butoxycarbonylamino-cyclohexane carboxylic acid (50 g, 0.21 mol) in benzene was added triethylamine (37 mL, 0.27 mol) and diphenylphosphoryl azide (48.7 mL, 0.23 mol). The reaction mixture was stirred at 80 °C for 1 hour. Benzyl alcohol (30 mL, 0.29 mol) was added and the reaction mixture was stirred at reflux overnight. The solvent benzene was removed under vacuum and the resulting slurry dissolved in ethyl acetate. The organic layer was extracted with H_2O and separated. The aqueous layer was extracted twice more with ethyl acetate. The organic layers were combined, dried over $MgSO_4$, concentrated, and subjected to chromatography (30% ethyl acetate in hexanes) to give *cis*-(4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid *tert*-butyl ester (54.1 g, 0.16 mol, 75%) as a colorless oil.

ESI-MS m/e 349.4 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 7.34-7.28 (m, 5 H), 7.12 (d, J = 5.6 Hz, 1 H), 6.62 (brs, 1 H), 4.98 (s, 2 H), 3.39-3.37 (m, 2 H), 1.60-1.45 (m, 8 H), 1.37 (s, 9 H).

Step B: Synthesis of *cis*-(4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester.

To a solution of *cis*-(4-benzyloxycarbonylamino-cyclohexyl)-carbamic acid *tert*-butyl ester (54.1 g, 0.16 mol) in ethanol was added 10% Pd/C (5.4 g). The reaction mixture was stirred at room temperature under an H_2 atmosphere for 3 hours. The H_2 atmosphere was removed and the solution filtered though celite and concentrated. The resulting precipitate was dissolved in ethyl acetate and extracted with a dilute NaOH (aq) solution. The aqueous layer was extracted twice more with ethyl acetate. The organic layers were combined, dried over $MgSO_4$, and concentrated. The resulting precipitate was recrystallized in ethyl acetate and hexanes to yield *cis*-(4-amino-cyclohexyl)-carbamic acid *tert*-butyl ester (28.9 g, 0.14 mol, 87%) as a white solid.

ESI-MS m/e 215.2 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 6.60 (d, J = 6.0 Hz, 1 H), 3.30-3.28 (m, 1 H), 2.74 (s, 1 H), 1.59-1.51 (m, 2 H), 1.45-1.37 (m, 15 H).

Step C: Synthesis of *cis*-[4-(4-dimethlyamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid

tert-butyl ester.

To a solution of cis-(4-amino-cyclohexyl)-carbamic acid tert-butyl ester (0.5 g, 0.0023 mol) in 1 mL 2-propanol was added (2-chloro-quinazolin-4-yl)-dimethly-amine (0.53, 0.0026 mol) and DIEA (1.22 mL, 0.0070 mol). The mixture was heated in a microwave synthesizer at 170 °C for 1 hour. The reaction was repeated 39 more times (20 g total material) and the reaction mixtures were pooled. The solvent was evaporated and the material subjected to chromatography (2-4% 2M NH_3 in MeOH / CH_2Cl_2) to yield cis-[4-(4-dimethlyamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid tert-butyl ester (22.1 g, 0.057 mol, 61%) as a colorless oil.

ESI-MS m/e 386.4 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 7.85 (d, J = 8.0 Hz, 1 H), 7.47 (t, J = 8.4 Hz, 1 H), 7.27 (d, J = 8.0 Hz, 1 H), 7.00 (t, J = 7.6 Hz, 1 H), 6.60 (brs, 1 H), 6.18 (brs, 1 H), 3.89-3.88 (m, 1 H), 3.39 (brs, 1 H), 3.19 (s, 6 H), 1.77-1.71 (m, 2 H), 1.68-1.52 (m, 6 H), 1.38 (s, 9 H).

Step D: Synthesis of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine.

To a solution of cis-[4-(4-dimethlyamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid tert-butyl ester (22.1 g, 0.057 mol) in CH_2Cl_2 was added TFA (10 mL, 0.13 mol). The solution was stirred at room temperature for 4 hours. The excess solvent was evaporated off and the resulting oil was dissolved in CH_2Cl_2. The organic layer was extracted with a dilute NaOH (aq) / $NaHCO_3$ (aq) solution. The aqueous layer was extracted twice more with CH_2Cl_2 and the organic layers combined, dried over $MgSO_4$, and concentrated. The resulting precipitate was crystallized in ether and hexanes to yield cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (15.0 g, 0.053 mol, 92%) as a pale yellow solid.

ESI-MS m/e 286.2 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.45 (t, J = 6.8 Hz, 1 H), 7.26 (d, J = 8.4 Hz, 1 H), 6.99 (t, J = 7.6 Hz, 1 H), 6.20 (brs, 1 H), 3.90-3.89 (m, 1 H), 3.13 (s, 6 H), 2.79 (s, 1 H), 1.74-1.71 (m, 2 H), 1.57-1.41 (m, 8 H).

Step E: Synthesis of

N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)ure

a trifluoroacetate.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.10 mmol) in 0.5 mL of DMSO was added 3,4-dimethoxyphenylisocyanate (14.9 uL, 0.10 mmol). Note that for this reaction it was necessary to slightly heat the starting material to dissolve it in the DMSO before adding the isocyanate. The reaction mixture was stirred for 1 hour and then 0.5 mL of 50% DMSO in H_2O was added. The compound was subjected to purification by prep LCMS to yield N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino} cyclohexyl)urea trifluoroacetate (37 mg, 0.064 mmol, 64%) as a white solid.

ESI-MS m/e 465.2 M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.10 (s, 1 H), 8.21 (s, 1 H), 8.16 (d, J = 8.0 Hz, 1 H), 8.08 (brs, 1 H), 7.78 (t, J = 7.6 Hz, 1 H), 7.45 (brs, 1 H), 7.37 (t, J = 7.6 Hz, 1 H), 7.15 (s, 1 H), 6.83-6.72 (m, 2 H), 6.15 (d, J = 6.8 Hz, 1 H), 4.00 (brs, 1 H), 3.72 (s, 3 H), 3.69 (s, 3 H), 3.47 (brs, 6 H), 1.80-1.78 (m, 2 H), 1.68 (m, 6 H).

Example 894

N-[(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]urea trifluoroacetate

Step A: Synthesis of cis-4-tert-butoxycarbonylamino-cyclohexanecarboxylic acid.

To a solution of cis-4-amino-cyclohexanecarboxylic acid (50 g, 350 mmol) in 200 mL of THF and 380 mL of 1M NaOH (380 mmol), Boc_2O (83.5 g, 360 mmol) was added. The mixture was stirred at room temperature for 2 hr and evaporated until only water was remained. The reaction mixture was cooled to 0 °C and acidified with 1M HCl until pH about 3. The white solid formed was filtered, washed with water and hexanes to give cis-4-tert-butoxycarbonylamino-cyclohexanecarboxylic acid (71g, 83%) as a white solid.

ESI-MS m/e 244 M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.00 (b, 1 H), 6.74 (d, J = 4.25, 1 H), 3.30 (brs, 1 H), 2.35 (m, 1 H), 1.87 (m, 2 H), 1.55-1.37 (m, 15 H).

Step B: Synthesis of cis (4-carbamoyl-cyclohexyl)-carbamic acid tert-butyl ester.

The cis-4-tert-butoxycarbonylamino-cyclohexanecarboxylic acid (68 g, 280mmol) and triethylamine (42.85 mL, 308 mmol) were dissolved in 300 mL of THF and the mixture was cooled to 0 ^{0}C. Ethyl chloroformate (29.3 mL, 308 mmol) was added dropwise. After stirring at 0 ^{0}C for 30 min, 168 mL of 25% aqueous ammonia was added dropwise. The mixture was allowed to stir at room temperature for 2 hr. The solvent was evaporated until only water was remained. To this mixture was added EtOAc. The organic layer was washed with sat. $NaHCO_3$, 1M HCl, brine, water, dried over Na_2SO_4 and filtered. The solvent was evaporated to give cis (4-carbamoyl-cyclohexyl)-carbamic acid tert-butyl ester (62 g, 88%) as a white solid.

ESI-MS m/e 243 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.10 (brs, 1 H), 6.69 (brs, 2 H), 3.41 (brs, 1 H), 2.14 (m, 1 H), 1.79 (m, 2 H), 1.59 (m, 2 H), 1.45-1.37 (m, 13 H).

Step C: Synthesis of cis-4-amino-cyclohexanecarboxylic acid amide hydrochloride.

The cis-(4-carbamoyl-cyclohexyl)-carbamic acid tert-butyl ester (62 g, 256 mmol) in 250 mL of DCM was added 250 mL of TFA. The mixture was stirred for 1 hr. The solvents were evaporated. To the residue was added 150 mL of 2M HCl in ether to give white solid. The solvent was evaporated to give cis-4-amino-cyclohexanecarboxylic acid amide hydrochloride (45 g, 98%) of white solid as the product.

ESI-MS m/e 143 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.08 (brs, 3 H), 7.28 (s, 1 H), 6.78 (s, 1 H), 3.10 (m, 1 H), 2.24 (m, 1 H), 1.90 (m, 2 H), 1.66 (m, 4 H), 1.50 (m, 2 H).

Step D: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid amide.

(2-Chloro-quinazoline-4-yl)-dimethylamine (31.05 g, 150 mmol) and cis-4-amino-cyclohexanecarboxylic acid amide hydrochloride (26.7 g, 150 mmol) in 150 mL of pyridine was refluxed overnight. The solvent was evaporated. DCM was added to the residue. The organic layer was washed with sat. $NaHCO_3$. The aqueous layer was backed extracted with DCM. The combined organic layers were dried over Na_2SO_4, filtered and evaporated. The residue was

purified on silica gel column twice to give a slightly brown solid which was recrystalized from DCM to give cis-4 (4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid amide (20.6 g, 44%) as yellow crystals.

ESI-MS m/e 314 M +H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.19 (b, 1 H), 8.15 (d, J = 8.4 Hz, 1 H), 7.77 (t, J = 8 Hz, 1 H), 7.42 (d, J = 7.2 Hz, 1 H), 7.35 (t, J = 8.4 Hz, 1 H), 7.21 (s, 1 H), 6.74 (s, 1 H), 4.12 (m, 1 H), 3.46 (b, 6 H), 2.24 (m, 1 H), 1.79-1.61 (m, 8 H).

Step E: Synthesis of cis-N^2-(4-aminomethyl-cyclohexyl)- N^4, N^4-dimethyl-quinazoline-2,4-diamine.

To a stirred solution of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid amide (18.78 g, 60 mmol) in 200 mL of THF was added a solution of 1M BH_3 in THF (300 mL, 300 mmol). The mixture was refluxed for 2 hr. After cooling the reaction mixture to 0 ^{0}C, 100 mL of 4 M HCl and 200 mL of methanol were added. The solvents were removed under reduced pressure. The mixture was treated with 1M NaOH and the aqueous phase was extracted with dichloromethane. The organic layers were combined, dried over sodium sulfate, concentrated under reduced pressure, and purified on silica gel colum to give cis-N^2-(4-aminomethyl-cyclohexyl)-N^4, N^4-dimethyl-quinazoline-2,4-diamine as a white solid (10.6 g, 59%).

ESI-MS m/e 300 M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.46 (t, J = 6.8 Hz, 1 H), 7.26 (d, J = 8.4 Hz, 1 H), 6.99 (t, J = 6.8 Hz, 1 H), 6.28 (brs, 1 H), 4.02 (m, 1 H), 3.19 (brs, 6 H), 2.47 (d, J = 6.8 Hz, 2 H), 2.73 (m, 2 H), 1.68-1.33 (m, 9 H).

Step F: Synthesis of N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]urea trifluoroacetate.

A solution of cis-N^2-(4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (30 mg, 0.1 mmol) and 2-trifluoromethoxy phenylisocyanate (20 mg, 0.1 mmol) in 0.5 mL of DMSO was stirred at room temperature overnight. DMSO (0.5 mL) was added and the reaction mixture was purified by prep LCMS. The fractions contained the product were combined and lyophilized to give

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-[2-(trifluoromethoxy)phenyl]urea trifluoroacetate (21 mg, 34%) as a white solid.

ESI-MS m/e 503 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.10 (brs, 1 H), 8.23 (d, J = 8.0 Hz, 1 H), 8.15 (d, J = 8.0 Hz, 1 H), 8.14 (s, 1 H), 8.09 (brs, 1 H), 7.75 (m, 1 H), 7.43-7.24 (m, 4 H), 6.98 (m, 2 H), 4.15 (m, 1 H), 3.46 (brs, 6 H), 3.05 (m, 2 H), 1.77-1.35 (m, 9 H).

Example 895

2-(4-Chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-nicotinamide trifluoroacetate

Step A: Synthesis of cis-[4-(4-dimethlyamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid tert-butyl ester.

To a solution of cis-(4-amino-cyclohexyl)-carbamic acid tert-butyl ester (0.5 g, 0.0023 mol) in 1 mL 2-propanol was added (2-chloro-quinazolin-4-yl)-dimethyl-amine (0.53, 0.0026 mol) and DIEA (1.22 mL, 0.0070 mol). The mixture was heated in a microwave synthesizer at 170 °C for 1 hour. The reaction was repeated 39 more times (20 g total material) and the reaction mixtures were pooled. The solvent was evaporated and the material subjected to chromatography (2-4% 2M NH_3 in MeOH / CH_2Cl_2) to yield cis-[4-(4-dimethlylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid tert-butyl ester (22.1 g, 0.057 mol, 61%) as a colorless oil.

ESI MS m/e 386.4 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.85 (d, J = 8.0 Hz, 1 H), 7.47 (t, J = 8.4 Hz, 1 H), 7.27 (d, J = 8.0 Hz, 1 H), 7.00 (t, J = 7.6 Hz, 1 H), 6.60 (brs, 1 H), 6.18 (brs, 1 H), 3.89-3.88 (m, 1 H), 3.39 (brs, 1 H), 3.19 (s, 6 H), 1.77-1.71 (m, 2 H), 1.68-1.52 (m, 6 H), 1.38 (s, 9 H).

Step B: Synthesis of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine.

To a solution of cis-[4-(4-dimethlylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid tert-butyl ester (22.1 g, 0.057 mol) in CH_2Cl_2 was added TFA (10 mL, 0.13 mol). The solution was

stirred at room temperature for 4 hours. The excess solvent was evaporated off and the resulting oil was dissolved in CH_2Cl_2. The organic layer was extracted with a dilute NaOH (aq) solution. The aqueous layer was extracted twice more with CH_2Cl_2 and the organic layers combined, dried over $MgSO_4$, and concentrated. The resulting precipitate was crystallized in ether and hexanes to yield cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (15.0 g, 0.053 mol, 92%) as a pale yellow solid.

ESI MS m/e 286.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.45 (t, J = 6.8 Hz, 1 H), 7.26 (d, J = 8.4 Hz, 1 H), 6.99 (t, J = 7.6 Hz, 1 H), 6.20 (brs, 1 H), 3.90-3.89 (m, 1 H), 3.18 (s, 6 H), 2.79 (s, 1 H), 1.74-1.71 (m, 2 H), 1.57-1.41 (m, 8 H).

Step C: Synthesis of 2-(4-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide trifluoroacetate.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.1 mmol) in 0.5 mL DMF was added 2-(4-chlorophenoxy)nicotinic acid (24.9 mg, 0.1mmol), HATU (45.6mg, 0.12 mmol), and DIEA (34.8 L, 0.2mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to yield 2-(4-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide trifluoroacetate (15 mg, 0.029 mmol, 29%) as a white solid.

ESI-MS m/e 517.4 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.2 (s, 1 H), 8.58 (d, J = 8.0 Hz 1 H), 8.48-8.39 (m, 2 H), 8.29 (d, J = 8.0 Hz, 1 H), 8.13 (brs, 1 H), 8.02 (t, J = 4.0 Hz, 1 H), 7.75 (m, 3 H), 7.61 (t, J = 8.0 Hz, 1 H), 7.50 (m, 3 H), 4.25 (brs, 1 H), 4.21 (brs, 1 H), 3.69 (brs, 6 H), 2.00-1.80 (m, 8 H).

Example 896

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy)-nicotinamide trifluoroacetate

Step A: Synthesis of cis-2-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.0 g, 3.5 mmol) in 18 mL CH_2Cl_2 was added 2-chloronicotinyl chloride (616.7mg, 3.5 mmol), DIEA (1.2 mL, 7. 0mmol). The reaction mixture was stirred for 30 minutes at room temperature, the solvent was removed under vacuum, and the residue was purified by column chromatography on silca gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2) to yield cis-2-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide (0.71g, 47%). ESI-MS m/e 425.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.59 (brs, 1 H), 8.46 (d, J = 4.0 Hz, 1 H), 8.30 (brs, 1 H), 8.18 (d, J = 8.0 Hz, 1 H), 7.87 (d, J = 8.0 Hz, 1 H), 7.79 (t, J = 8.0 Hz, 1 H), 7.53-7.43 (m, 2 H), 7.37 (t, J = 8.0 Hz, 1 H), 4.09 (brs, 1 H), 3.93 (brs, 1 H), 3.57 (brs, 6 H), 1.90-1.62 (m, 8 H).

Step B: Synthesis of N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy)nicotinamide trifluoroacetate.

cis-2-Chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide (30 mg, 0.07 mmol) was added into a stirred solution of 4-fluorophenol (7.93mg, 0.07 mmol) and 60% NaH in mineral oil (5.6 mg, 0.14 mmol) in 0.5 mL DMA. The mixture was heated in a microwave synthesizer at 250°C for 1 hour. The compound was then subjected to purification by prep LCMS to yield N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy) nicotinamide trifluoroacetate (10.3 mg, 0.021 mmol 30 %) as a white solid.
ESI-MS 501.3 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.2 (s, 1 H), 8.51 (brs, 1 H), 8.38-8.34 (m, 2 H), 8.26 (d, J = 8.0 Hz, 1 H), 8.17 (brs, 1 H), 7.98 (t, J = 8.0 Hz, 1 H), 7.63 (brs, 1 H), 7.57 (t, J = 8.0 Hz, 1 H), 7.47-7.40 (m, 5 H), 4.20 (brs, 1 H), 4.17 (brs, 1 H), 3.66 (brs, 6 H), 2.00-1.94 (m, 8 H).

Example 897

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-methoxyphenoxy)-nicotinamide trifluoroacetate

Step A: Synthesis of

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-methoxyphenoxy)nicotinamide trifluoroacetate.

Using a similar procedure as described in step B of Example 896, the title compound was obtained.

ESI-MS m/e 513.4 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 11.8 (s, 1 H), 8.14 (brs, 1 H), 8.00 (m, 2 H), 7.91 (brs, 1 H), 7.80 (brs, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.27 (brs, 1 H), 7.21 (t, J = 8.0 Hz, 1 H), 7.04 (q, J = 4.0 Hz, 1 H), 6.99 (d, J = 12.0 Hz, 2 H), 6.80 (d, J = 12.0 Hz, 2 H), 3.82 -3.76, (brs, 2 H), 3.40-3.30 (m, 6 H), 1.61-1.50 (m, 8 H).

Example 898

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-methylphenoxy)-nicotinamide trifluoroacetate

Step A: Synthesis of

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-methylphenoxy)nicotinamide trifluoroacetate.

Using a similar procedure as described in step B of Example 896, the title compound was obtained.

ESI-MS m/e 497.4 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 12.0 (brs, 1 H), 8.26 (d, J = 4.8 Hz, 1 H), 8.18 (m, 2 H), 8.07 (d, J = 6.8 Hz ,1 H), 7.88 (brs, 1 H), 7.77 (t, J = 8.0 Hz, 1 H), 7.43 (brs,1 H), 7.36 (t, J = 8.0 Hz, 1 H), 7.27 (t, J = 8.0 Hz, 1 H), 7.20 (q, J = 8.0 Hz, 1 H), 7.02-6.96 (m, 3 H), 4.10-3.90 (m, 2 H), 3.80-3.20 (m, 6 H), 2.30 (s, 3 H), 1.78-1.50 (m, 8 H).

Example 899

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-methoxyphenoxy)-nicotinamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-methoxyphenoxy)nicotinamide trifluoroacetate.

Using a similar procedure as described in step B of Example 896, the title compounds was obtained.

ESI-MS m/e 513.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.9 (s, 1 H), 8.15-8.12 (m, 4 H), 7.88 (brs, 1 H), 7.78 (t, J = 8.0 Hz, 1 H), 7.42 (brs, 1 H), 7.30-7.10 (m, 4 H), 7.14 (d, J = 8.0 Hz, 1 H), 7.00 (t, J = 8.0 Hz, 1 H), 4.15 (brs, 2 H), 3.69 (s, 3 H), 3.39 (brs, 6 H), 1.80-1.50 (m, 8 H).

Example 900

2-(4-Bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-nicotinamide trifluoroacetate

Step A: Synthesis of 2-(4-bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide trifluoroacetate.

Using a similar procedure as described in step B of Example 896, the title compounds was obtained.

ESI-MS m/e 563.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.9 (s, 1 H), 8.16 (d, J = 8.0 Hz, 1 H), 8.02-7.98 (m, 2 H), 7.88 (d, J = 8.0 Hz, 1 H), 7.83 (brs, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.42 (d, J = 8.0 Hz, 2 H), 7.27 (brs, 1 H), 7.20 (t, J = 8.0 Hz, 1 H), 7.08-7.05 (q, J = 4.0 Hz, 1 H), 7.03 (d, J = 12.0

Hz, 2 H), 3.83 (brs, 2 H), 3.29 (brs, 5 H), 1.59-1.50 (m, 8 H).

Example 901

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2,6-dimethoxynicotinamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2,6-dimethoxynicotinamide trifluoroacetate.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.1 mmol) in 0.5 mL DMF was added 2,6-dimethoxynicotinic acid (18.3 mg, 0.1mmol), HATU (45.6mg, 0.12 mmol), and DIEA (34.8 L, 0.2mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to yield N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2,6-dimethoxynicotinamide trifluoroacetate (9.9 mg, 0.022 mmol, 22 %) as a white solid.

ESI-MS m/e 451.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.5 (s, 1 H), 8.42 (brs, 1 H), 8.13 (dd, J = 4.0, 4.0 Hz, 2 H), 7.86 (brs, 1 H), 7.74 (t, J = 8.0 Hz, 1 H), 7.39 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 6.47 (d, J = 8.0 Hz, 1 H), 4.02 (s, 3 H), 3.95 (brs, 1 H), 3.85 (s, 3 H), 3.68 (brs, 1 H), 3.42 (brs, 6 H), 1.80-1.68 (m, 8 H).

Example 902

N^2-{(1S,3R)-3-[(3,5-Dichlorobenzyl)amino]cyclopentyl}-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate.

Step A: Synthesis of (1S,3R)-cis-(3-tert-butoxycarbonylamino-cyclopentyl)-carbamic acid benzyl ester.

(1R,3S)-N-Boc-1-aminocyclopentane-3-carboxylic acid (5.00 g, 21.8 mmol), diphenylphosphoryl azide (4.69 mL, 21.8 mmol), and triethylamine (3.04 mL, 21.8 mmol) were combined in benzene (30 mL) at room temperature. The mixture was heated to 80 ^{0}C and stirred 1 hr. Benzyl alcohol (2.26 mL, 21.8 mmol) was added and the mixture was heated to 110 ^{0}C for 16 hr. The mixture was concentrated and ethyl acetate was added. The organic phase was washed with water, saturated aqueous $NaHCO_3$, and brine, dried over Na_2SO_4, filtered, and concentrated. The crude product was purified by flash chromatography (silica gel, 20% ethyl acetate in hexanes) to give (1S,3R)-cis-(3-tert-butoxycarbonylamino-cyclopentyl)-carbamic acid benzyl ester (5.00 g, 69%) as a white solid.

ESI-MS m/e 335 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.25 (m, 5 H), 6.83 (m, 2 H), 4.98 (s, 2 H), 3.77 (brs, 1 H), 2.13 (dt, J = 12.8, 7.6 Hz, 1 H), 1.75 (d, J = 7.2 Hz, 2 H), 1.43 (m, 2 H), 1.38 (s, 9 H), 1.22 (m, 2 H).

Step B: Synthesis of (1R,3S)-cis-(3-amino-cyclopentyl)-carbamic acid tert-butyl ester.

(1S,3R)-(3-tert-Butoxycarbonylamino-cyclopentyl)-carbamic acid benzyl ester (4.73 g, 14.2 mmol) and 10% Pd/C (0.24 g) were combined in methanol (27 mL) at room temperature. The mixture stirred for 4 days under a hydrogen gas atmosphere, was filtered through celite and concentrated to give (1R,3S)-cis-(3-amino-cyclopentyl)-carbamic acid tert-butyl ester as a yellow oil (2.84 g) (crude). ESI-MS m/e 201 (M+H)$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 6.82 (brs, 1 H), 3.70 (m, 1 H), 2.10 (brs, 2 H), 1.97 (dt, J = 12.8, 6.8 Hz, 1 H), 1.70 (m, 2 H), 1.43 (m, 2 H), 1.38 (s, 9 H), 1.18 (m, 2 H).

Step C: Synthesis of (1S,3R)-cis-N^2-(3-amino-cyclopentyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine.

(2-Chloro-quinazolin-4-yl)-dimethyl-amine (0.100 g, 0.48mmol), (1R,3S)-(3-amino-cyclopentyl)-carbamic acid tert-butyl ester (0.096 g, 0.48 mmol), and diisopropylethylamine (0.126 mL, 0.72 mmol) were combined in isopropanol (1 mL) at room temperature. The mixture was heated to 160 ^{0}C for 40 min. utilizing a Smith synthesizer microwave apparatus. Trifluoroacetic acid (1 mL, neat) was added and the mixture was heated to 100 ^{0}C for 30 min. Then it was concentrated,

neutralized with saturated aqueous $NaHCO_3$, concentrated, extracted with methanol, and concentrated again to give (1S,3R)-cis-N^2-(3-amino-cyclopentyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine as a yellow gum (0.130 g) (crude).

ESI-MS m/e 272 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 8.76 (brs, 1 H), 8.17 (d, J = 7.6 Hz, 1 H), 7.77 (d, J = 7.2 Hz, 1 H), 7.40 (brs, 1 H), 7.35 (d, J = 7.6 Hz, 1 H), 3.80 (m, 1 H), 3.40 (s, 6 H), 2.20 (m, 1 H), 1.98 (brs, 2 H) 1.70 (m, 2 H), 1.43 (m, 2 H), 1.18 (m, 2 H).

Step B: Synthesis of N^2-{(1S,3R)-3-[(3,5-dichlorobenzyl)amino]cyclopentyl}-N^4,N^4-dimethyl quinazoline-2,4-diamine bistrifluoroacetate.

(1S,3R)-N^2-(3-Amino-cyclopentyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (0.065 g, 0.24 mmol) and 2,4-dimethoxybenzaldehyde (0.040 g, 0.24 mmol) were combined in methanol (1 mL) at room temperature. After stirring for 1 hr, sodium triacetoxyborohydride (0.204 g, 0.96 mmol) was added and the mixture was heated to 150°C for 40 min. utilizing a SmithSynthesizer microwave apparatus. Water (1 mL) was added and the product was purified to give N^2-{(1S,3R)-3-[(3,5-dichlorobenzyl)amino]cyclopentyl}-N^4,N^4-dimethyl quinazoline-2,4-diamine bistrifluoroacetate as a white solid (0.070g, 45%).

ESI-MS m/e 422 M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 9.32 (brs, 1 H), 8.17 (d, J = 7.6 Hz, 1 H), 7.77 (t, J = 7.2 Hz, 1 H), 7.69 (s, 1 H), 7.61 (s, 1 H), 7.60 (s, 1 H), 7.40 (brs, 1 H), 7.35 (t, J = 7.6 Hz, 1 H), 4.33 (brs, 1 H), 3.58 (m, 2 H), 3.40 (s, 6 H), 2.20 (m, 1 H), 2.06 (brs, 1 H), 1.70 (m, 2 H), 1.43 (m, 2 H), 1.18 (m, 2 H).

Example 903

6-(3-Chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl) nicotinamide trifluoroacetate

Step A: Synthesis of cis-6-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.8 g, 6.3 mmol) in 30 mL CH_2Cl_2 was added 6-chloronicotinyl chloride (1.1g, 6.3 mmol), DIEA (2.19mL, 12.6mmol). The reaction mixture was stirred for 30 minutes at room temperature, the solvent was removed under vacuum, and the residue was purified by column chromatography on silica gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2= 5:10) to yield cis-6-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide (1.07g, 40%). ESI-MS m/e 425.0 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 8.76 (brs, 1 H), 8.46 (brs, 1 H), 8.37 (brs, 1 H), 8.19 (dd, J = 8.0, 4.0 Hz, 1 H), 8.12 (d, J = 8.0 Hz, 1 H), 7.74 (t, J = 8.0 Hz, 1 H), 7.59 (d, J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 3.99 (brs, 1 H), 3.86 (brs, 1 H), 3.30 (brs, 6 H), 1.85-1.62 (m, 8 H).

Step B: Synthesis of 6-(3-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide trifluoroacetate.

cis-6-Chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-nicotinamide (30 mg, 0.07 mmol) was added into a stirred solution of 3-chlorophenol (17.9 mg, 0.14 mmol) and 60% NaH in mineral oil (5.6 mg, 0.14 mmol) in 0.5 mL DMA. The mixture was heated in a microwave synthesizer at 250°C for 1 hour. The compound was then subjected to purification by prep LCMS to yield 6-(3-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide trifluoroacetate (8.2 mg, 0.016 mmol, 23 %) as a white solid.

ESI-MS m/e 517.02 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 12.5 (s, 1 H), 8.63 (s, 1 H), 8.37 (brs, 1 H), 8.31 (dd, J = 8.0, 4.0 Hz, 1 H), 8.21 (d, J = 8.0 Hz, 1 H), 7.83 (t, J = 8.0 Hz, 1 H), 7.56 (m, 2 H), 7.41 (m, 3 H), 7.22 (d, J = 8.0 Hz, 2 H), 4.08 (brs, 1 H), 3.90 (brs, 1 H), 3.80-3.40 (brs, 6 H), 2.00-1.51 (m, 8 H).

Example 904

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(3-fluorophenoxy)-nicotinamide trifluoroacetate

Step A: Synthesis of **N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(3-fluorophenoxy)nicotinamide trifluoroacetate.**

Using a similar procedure as described in step B of Example 903, the title compounds was obtained.

ESI-MS m/e 501.2 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 12.0 (s, 1 H), 8.40 (brs, 1 H), 8.11(brs, 1 H), 8.07-8.04 (m, 1 H), 7.97 (d, J = 8.0 Hz, 1 H), 7.80 (brs, 1 H), 7.59 (t, J = 8.0 Hz, 1 H), 7.29 (m, 2 H), 7.17 (t, J = 8.0 Hz, 1 H), 6.97-6.86 (m, 3 H), 6.82 (d, J = 8.0 Hz, 1 H), 3.85 (brs, 1 H), 3.77 (brs, 1 H), 3.40-3.20 (m, 6 H), 1.87-1.49 (m, 8 H).

Example 905

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-fluorophenoxy)isonicotinamide trifluoroacetate

Step A: Synthesis of cis-2-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-isonicotinamide.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.0 g, 3.5 mmol) in 18 mL CH_2Cl_2 was added 2-chlorophyridine-4-carbonyl chloride (616.7 mg, 3.5 mmol). The reaction mixture was stirred for 30 minutes at room temperature, the solvent was removed under vacuum, and the residue was purified by column chromatography on silica gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2= 5:10) to yield cis-2-chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-isonicotinamide (0.79 g, 54 %) as a white solid.

ESI-MS m/e 425.0 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.58 (brs, 1 H), 8.50 (d, J = 8.0 Hz, 1 H), 8.27 (brs, 1 H), 8.13 (d, J = 8.0 Hz, 1 H), 7.81 (s, 1 H), 7.74-7.69 (m, 2 H), 7.40 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 3.99 (brs, 1 H), 3.85 (brs, 1 H), 3.42 (brs, 6 H), 1.84-1.69 (m, 8 H).

Step B: Synthesis of

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-fluorophenoxy)isonicotinamide trifluoroacetate.

cis-2-Chloro-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-isonicotinamide (30 mg, 0.07 mmol) was added into a stirred solution of 3-fluorophenol (6.34 µl, 0.07 mmol) and 60% NaH in mineral oil (5.6 mg, 0.14 mmol) in 0.5 mL DMA. The mixture was heated in a microwave synthesizer at 250 °C for 1 hour. The compound was then subjected to purification by prep LCMS to yield

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-fluorophenoxy)isonicotinamide trifluoroacetate (7.3 mg, 0.0146 mmol, 21 %) as a white solid.

ESI-MS m/e 501.4 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.1 (s, 1 H), 8.58 (brs, 1 H), 8.28 (d, J = 4.0 Hz, 1 H), 8.18 (d, J = 8.0 Hz, 1 H), 7.98 (brs, 1 H), 7.79 (t, J = 8.0 Hz, 1 H), 7.52 (d, J = 4.0 Hz, 1 H), 7.43 (m, 3 H), 7.34 (t, J = 8.0 Hz, 1 H), 7.10-7.06 (m, 2 H), 7.00 (d, J = 4.0 Hz, 1 H), 4.07 (brs, 1 H), 3.97 (brs, 1 H), 3.50 (brs, 6 H),1.89-1.75 (m, 8 H).

Example 906

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy)isonicotinamide trifluoroacetate

Step A: Synthesis of

N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy)isonicotinamide trifluoroacetate.

Using a similar procedure as described in step B of Example 905, the title compound was obtained.

ESI-MS m/e 501.3 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.5(s, 1 H), 8.58 (brs, 1 H), 8.23 (brs, 1 H), 8.22(d, J = 4.0 Hz, 1 H), 8.18 (d, J = 8.0 Hz, 1 H), 7.8 (t, J = 8.0 Hz, 1 H) 7.47-7.30 (m, 4 H), 7.28-7.14 (m, 4 H), 4.10 (brs, 1 H), 3.95 (brs,1 H), 3.47 (brs, 6 H), 2.00-1.50 (m, 8 H).

Example 907

2-(2,3-Dichlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)acetamide trifluoroacetate

Step A: Synthesis of 2-(2,3-dichlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)acetamide trifluoroacetate.

To a solution of cis- N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.1 mmol) in 0.5 mL DMF was added 2,3-dichlorophenoxyacetic acid (18.2 mg, 0.1 mmol), HATU (45.6 mg, 0.12 mmol), and DIEA (34.8 μL, 0.2 mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to yield 2-(2,3-dichlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)acetamide trifluoroacetate (12.3 mg, 27 %) as a white solid.

ESI-MS m/e 488.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.3 (s, 1 H), 8.16 (brs, 1 H), 8.12 (d, J = 8.0 Hz 1 H), 7.81 (brs, 1 H), 7.74 (t, J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 7.27 (t, J = 8.0 Hz, 1 H), 7.18 (d, J = 8.0 Hz, 1 H), 6.99 (d, J = 8.0 Hz, 1 H), 4.65 (s, 2 H), 3.95 (brs, 1 H), 3.76 (brs, 1 H), 3.41 (brs, 6 H), 1.72-1.62 (m, 8 H).

Example 908

N-(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-naphthyloxy)acetamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-naphthyloxy)acetamide trifluoroacetate.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.1 mmol) in 0.5 mL DMF was added 2-naphthoxyacetic acid (20 mg, 0.1 mmol), HATU (45.6 mg, 0.12 mmol), and DIEA (34.8 μL, 0.2mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-naphthyloxy)acetamide trifluoroacetate (10.0 mg, 0.021 mmol, 21%) as a white solid.

ESI-MS m/e 470.4 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.1 (s, 1 H), 8.13 (d, J = 12.0 Hz, 1 H), 8.02 (brs, 1 H), 7.93 (brs, 1 H), 7.80 (t, J = 8.0 Hz, 2 H), 7.74-7.70 (m, 2 H), 7.41 (t, J = 8.0 Hz, 2 H), 7.33 (m, 2H), 7.20-7.17 (m, 2H), 4.57 (s, 2H), 4.05 (brs, 1H), 3.76 (brs, 1H), 3.41 (brs, 6H), 1.71-1.62 (m, 8H).

Example 909

2-(3,4-Difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-acetamide trifluoroacetate

Step A: Synthesis of cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-acetamide.

To a solution of cis- N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.0 g,

3.5 mmol) in 18 mL CH_2Cl_2 was added bromoacetyl bromide (305 μL, 3.5 mmol) at 0 °C. The reaction mixture was stirred for 2 hours, the solvent was removed under vacuum, and the residue was purified by column chromatography on silica gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2) to yield cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-acetamide (0.95 g, 2.35 mmol, 67 %), as a yellowish solid

ESI-MS m/e 406.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 8.63 (brs, 1 H), 8.43 (brs, 1 H), 8.35 (d, J = 8.0 Hz, 1 H), 7.97 (t, J = 8.0 Hz, 1 H), 7.62 (brs, 1 H), 7.55 (t, J = 8.0 Hz, 1 H), 4.23 (brs, 1 H), 4.05 (s, 2 H), 3.89 (brs, 1 H), 3.70-3.60 (brs, 6 H), 2.00-1.75 (m, 8 H).

Step B: Synthesis of 2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)acetamide trifluoroacetate.

cis-2-Bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl] acetamide (60 mg, 0.15 mmol) was added into a stirred solution of 3,4-difluorophenol (19.3 mg, 0.15 mmol) and 60% NaH in mineral oil (11.8 mg, 0.30 mmol) in 1 mL DMA. The mixture was heated in a microwave synthesizer at 250 °C for 1 hour. The compound was then subjected to purification by prep LCMS to yield 2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino) quinazolin-2-yl]amino}cyclohexyl)acetamide trifluoroacetate (32 mg, 0.07 mmol, 47 %) as a white solid.

ESI-MS m/e 456.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 12.4 (s, 1 H), 8.25 (brs, 1 H), 8.22 (d, J = 8.0 Hz, 1 H), 7.99 (brs, 1 H), 7.83 (t, J = 8.0 Hz, 1 H), 7.49 (brs, 1 H), 7.43-7.36 (m, 2 H), 7.13-7.08 (m, 1 H), 6.82 (brs, 1 H), 4.55 (s, 2 H), 4.06 (brs, 1 H), 3.81 (brs, 1 H), 3.5 (brs, 6 H), 1.89-1.75 (m, 8 H).

Example 910

2-(3,4-Difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-propanamide trifluoroacetate

Step A: Synthesis of cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-propionamide.

To a solution of cis- N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.0 g, 3.5 mmol) in 18 mL CH_2Cl_2 was added 2-bromopropionyl bromide (189 µL, 1.75 mmol) at 0 °C. The reaction mixture was stirred for 2 hours, the solvent was removed under vacuum, and the residue was purified by column chromatography on silica gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2) to yield cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-propionamide (0.66 g, 45%) as a white solid.

ESI-MS m/e 420.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 8.17 (m, 3 H), 7.76 (t, J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 7.55 (q, J = 4.0 Hz, 1 H), 3.99 (brs, 1 H), 3.57 (brs, 1 H), 3.41 (brs, 6 H), 1.69-1.50 (m, 11 H).

Step B: Synthesis of 2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexyl)propanamide trifluoroacetate.

cis-2-Bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-propionamide (60 mg, 0.14 mmol) was added into a stirred solution of 3,4-difluorophenol (18.6 mg, 0.14 mmol) and 60% NaH in mineral oil (11.4 mg, 0.29 mmol) in 1 mL DMA. The mixture was heated in a microwave synthesizer at 250 °C for 1 hour. The compound was then subjected to purification by prep LCMS to yield 2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)propanamide trifluoroacetate (6.7 mg, 0.014 mmol, 10 %) as a white solid.

ESI-MS m/e 470.4 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 12.2 (s, 1 H), 8.19 (d, J = 8.0 Hz, 1 H), 7.99 (brs, 1 H), 7.81 (t, J = 8.0 Hz, 1 H), 7.46 (brs, 1 H), 7.39-7.31 (m, 2 H), 7.05-6.97 (m, 1 H), 6.75 (brs, 1 H), 4.80-4.73 (m, 1 H), 4.01(brs, 1 H), 3.71 (brs, 1 H), 3.47 (brs, 6 H), 1.62-1.47 (m, 8 H), 1.43 (d, J = 4.0 Hz, 3 H).

Example 911

2-(3,4-Difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-butanamide trifluoroacetate

Step A: Synthesis of

cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-butyramide.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (1.0 g, 3.5 mmol) in 18 mL CH_2Cl_2 was added 2-bromobutyryl bromide (213 µL, 1.75 mmol) at 0 °C. The reaction mixture was stirred for 2 hours, the solvent was removed under vacuum, and the residue was purified by column chromatography on silica gel (2-4% 2M NH_3 in CH_3OH/ CH_2Cl_2) to yield cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-butyramide (0.53 g, 35 %) as a white solid.

ESI-MS m/e 434.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.15 (brs, 1 H), 8.12 (d, J = 8.0 Hz, 2 H), 7.74 (t, J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.32 (t, J = 8.0 Hz, 1 H), 4.33 (t, J = 8.0 Hz, 1 H), 3.93 (brs, 1 H), 3.66 (brs, 1 H), 3.41 (brs, 6 H), 2.01-1.87 (m, 1 H), 1.85-1.76 (m, 1 H), 1.70-1.59 (m, 8 H), 0.84 (t, J = 8.0 Hz, 3 H).

Step B: Synthesis of

2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)butan amide trifluoroacetate.

cis-2-Bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-butyramide (60 mg, 0.14 mmol) was added into a stirred solution of 3,4-difluorophenol (18.6 mg, 0.14 mmol) and 60% NaH in mineral oil (10.8 mg, 0.27 mmol) in 1 mL DMA. The mixture was heated in a microwave synthesizer at 250 °C for 1 hour. The compound was then subjected to purification by prep LCMS to yield 2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino} cyclohexyl)butanamide trifluoroacetate (6.3 mg, 9.3%) as a white solid.

ESI-MS m/e 484.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.2 (s, 1 H), 8.12 (d, J = 8.0 Hz, 2 H), 8.09 (brs, 1 H), 7.93 (brs, 1 H), 7.74 (t, J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.32-7.24 (m, 2 H),

6.97-6.91 (m, 1 H), 6.70-6.67 (m, 1 H), 4.56 (t, J = 4.0 Hz, 1 H), 3.95 (brs, 1 H), 3.67 (brs, 2 H), 3.41 (brs, 6 H), 1.84-1.77 (m, 2 H), 1.75-1.56 (m, 8 H), 0.90-0.81 (t, J = 16 .0 Hz, 3 H).

Example 912

N^2-(3-Chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)glycinamide bistrifluoroacetate

Step A: Synthesis of N^2-(3-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]-amino} cyclohexyl)glycinamide bistrifluoroacetate.

To a solution of cis-2-bromo-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-acetamide (40 mg, 0.1 mmol) in 0.5 mL DMF was added 3-chloroaniline (11.6 µL, 0.11 mmol). The reaction mixture was stirred at 100 °C, and another 0.5 mL of DMSO was added. The compound was then subjected to purification by prep LCMS to yield N^2-(3-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)glycinamide bistrifluoroacetate (6.0 mg, 8.8 %) as a white solid.

ESI-MS m/e 453.2 $M + H^+$; ^1H NMR (400 MHz, CD_3OD) δ 8.18 (d, J = 8.4 Hz, 1 H), 7.77 (t, J = 8.0 Hz, 1 H), 7.41 (m, 2 H), 7.11 (t, J = 8.0 Hz, 1H), 6.66-6.51 (m, 3 H), 4.20 (brs, 1 H), 3.93 (brs, 1 H), 3.76 (s, 2 H), 3.54 (brs, 6 H), 1.87-1.17 (m, 8 H).

Example 913

2-(3,5-Difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-methyl]-2-hydroxyacetamide trifluoroacetate

Step A: Synthesis of cis-(4-amino-cyclohexylmethyl)-carbamic acid benzyl ester.

To a solution of (4-aminomethyl-cyclohexyl)-carbamic acid tert-butyl ester (21.9 g, 96.0

mmol) in 400 mL CH_2Cl_2 was added DIEA (16.6 mL, 96 mmol), CbzCl (11.4 mL, 79.7 mmol). The reaction mixture was stirred at room temperature for 3 hours, and the solvent was then removed under vacuum, and the residue was purified by column chromatography on silica gel (Hexane/EtOAc= 1:1). The purified compound in 100 mL CH_2Cl_2 was added TFA (60mL). The solution was stirred at room temperature for 2 hours. The excess solvent was evaporated off and the resulting oil was dissolved in CH_2Cl_2. The organic layer was extracted with a dilute NaOH (aq) solution. The aqueous layer was extracted twice more with CH_2Cl_2 and the organic layers combined, dried over $MgSO_4$, and concentrated to yield cis-(4-amino-cyclohexylmethyl)-carbamic acid benzyl ester (20 g, 79 %) as a yellow solid.

ESI-MS m/e 263.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 7.82 (brs, 2 H), 7.39-7.29 (m, 6 H), 5.06 (s, 2 H), 3.15 (brs, 1 H), 2.98 (m, 1 H), 2.51(m, 1 H), 1.60-1.24 (m, 8 H).

Step B: Synthesis of cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester.

To a solution of cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester (0.5 g, 1.9 mmol) in 1 mL 2-propanol was added (2-chloro-quinazolin-4-yl)-dimethly-amine (0.33g, 1.58 mmol) and DIEA (661 µL, 3.8 mmol). The mixture was heated in a microwave synthesizer at 150 °C for 1 hour. The reaction was repeated 39 more times (20 g total material) and the reaction mixtures were pooled. The solvent was evaporated and the material subjected to chromatography (2-4% 2M NH_3 in MeOH / CH_2Cl_2) to yield cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester (16 g, 49%) as a yellowish oil.

ESI-MS m/e 434.2 M + H^+ ; ^1H NMR (400 MHz, DMSO-d_6) δ 8.59 (brs, 1 H), 8.14(d, J = 8.0 Hz, 1 H), 7.76 (t, J = 8.0 Hz, 1 H), 7.43(d, J = 8.0 Hz ,1 H), 7.35 (m, 7 H), 5.06 (s, 2 H), 4.24 (brs, 1 H), 3.59 (brs, 6 H), 2.85 (brs, 2 H), 1.66-1.35 (m, 9 H).

Step C: Synthesis of

cis-N^2-(4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine.

To cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-carbamic acid benzyl ester (16.0 g, 37 mmol) in ethanol was added 10% Pd/C (1.6 g). The reaction mixture was stirred at room temperature under an H_2 atmosphere for 3 hours. The H_2 atmosphere was removed and the solution filtered though celite and concentrated to yield cis-N^2-(4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (11.2g, 99%) as a yellowish solid.

ESI-MS m/e 300.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.50 (brs, 1 H), 8.10 (d, J = 12.0 Hz, 1 H), 7.71-7.61 (m, 3 H), 7.34 (d, J = 8.0 Hz, 1 H), 7.27 (t, J = 8.0 Hz, 1 H), 4.11 (brs, 1 H), 3.30 (brs, 6 H), 2.65 (brs, 2 H), 1.67-1.19 (m, 9 H).

Step D: Synthesis of 2-(3,5-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide trifluoroacetate

To a solution of cis-N^2-(4-aminomethyl-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine (29.9 mg, 0.1 mmol) in 0.5 mL DMF was added 3,5-difluoromandelic acid (18.8 mg, 0.1mmol), HATU (45.6mg, 0.12 mmol), and DIEA (34.8 µL, 0.2mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to 2-(3,5-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl) methyl]-2-hydroxyacetamide trifluoroacetate (29.5mg, 51%) as a white solid.

ESI-MS m/e 470.4 M + H^+ ; ^{1}H NMR (400 MHz, CD_3OD) δ 8.16 (d, J = 8.0 Hz, 1 H), 7.76 (t, J = 8.4 Hz, 1 H), 7.39 (m, 2 H), 7.12 (m, 2 H), 6.86 (m, 1 H), 5.04 (s, 1 H), 4.21 (brs, 1 H), 3.53 (brs, 6 H), 3.21 (m, 2 H), 1.86-1.39 (m, 9 H).

Example 914

2-(3,5-Difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide trifluoroacetate

Step A: Synthesis of 2-(3,5-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide trifluoroacetate.

To a solution of cis-N^2-(4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazolin-2,4-diamine (28.5 mg, 0.1 mmol) in 0.5 mL DMF was added 3,5-difluoromandelic acid (18.8mg, 0.1mmol), HATU (45.6 mg, 0.12 mmol), and DIEA (34.8 µL, 0.2mmol). The reaction mixture was stirred for a couple of hours, and the compound was then subjected to purification by prep LCMS to yield 2-(3,5-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxy acetamide trifluoroacetate (20.5 mg, 0.045 mmol, 45%) as a white solid.

ESI-MS m/e 456.2 M + H^+ ; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.3 (s, 1 H), 8.29 (d, J = 8.0 Hz, 1 H), 8.18 (brs, 1 H), 7.91 (m, 2 H), 7.58 (brs, 1 H), 7.49 (t, J = 8.0 Hz, 1 H), 7.25-7.22 (m, 3 H), 6.55 (brs, 1 H), 5.13 (s, 1 H), 4.15 (brs, 1 H), 3.82 (brs, 1 H), 3.58 (brs, 6 H), 1.85-1.73 (m, 8 H).

Example 915

cis-N-Benzyl-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexanecarboxamide trifluoroacetate

Step A: Synthesis of 2-chloro-4-isopropylquinazoline.

2,4-Dichloroquinazoline (0.5 g, 2.5 mmol) and 1,2-bis(diphenylphosphino) ethane nickel (II) chloride (15 mg) were mixed with THF (10 mL), and the reaction was kept under an inert atmosphere. The reaction flask was cooled in a cold bath (~ -20 °C), and isopropyl magnesium chloride (1.25 mL of 2M solution, 2.5 mmol) introduced into the reaction through a syringe. The reaction was slowly allowed to room temperature, and stirred overnight. The reaction was quenched with addition of 1N-HCl (~5 mL), diluted with water, and extracted with DCM (3 x 10 mL). The organic layer was washed with aqueous $NaHCO_3$ (1 x 10 mL) and water (1 x 10 mL), dried with $MgSO_4$, and concentrated. The crude was purified by column chromatography (silica gel, hexanes:DCM = 90:10 to 70:30) to give 0.11 g (20 %) of 2-chloro-4-isopropylquinazoline as a white solid.

ESI MS m/e 207 M + H^+; ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.16 (d, J = 8.0 Hz, 1 H), 7.97 (d, J = 8.0 Hz, 1 H), 7.89 (t, J = 8.0 Hz, 1 H), 7.63 (t, J = 8.0 Hz, 1 H), 3.90 (m, 1 H), 1.44 (d, J = 7.0 Hz, 6 H).

Step B: Synthesis of cis-4-amino-cyclohexanecarboxylic acid ethyl ester hydrochloride.

To a suspension of cis-aminocyclohexane-4-carboxylic acid (1.5 g, 10 mmol) in EtOH (15 mL) was added concentrated HCl (1.5 mL). The reaction was stirred for 2 h at 72 °C. Removal of the volatile solvent under a vacuum gave cis-4-amino-cyclohexanecarboxylic acid ethyl ester hydrochloride (1.7 g, 96 %) as a white power, which was used directly to the next reaction without further purification.

ESI MS m/e 172 M +H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 4.43 (brs, 2 H), 4.05 (q, J = 7.2 Hz, 2 H), 3.02 (brs, 1 H), 2.48 (m, 1 H), 1.93 (m, 2 H), 1.76 (m, 2 H), 1.43-1.57 (m, 4 H), 1.17 (t, J = 7.2 Hz, 3 H).

Step C: Synthesis of cis-4-(4-isopropyl-quinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl ester.

A solution of 2-chloro-4-isopropylquinazoline (0.26 g, 1.26 mmol) and cis-(4-ethoxycarbonyl) aminocyclohexane hydrochloride (0.26 g, 1 eq.) in IPA (2 mL) and DIEA (0.4 mL, 2 eq.) was reacted for 4 h at 160 °C in a Smith synthesizer. The reaction was purified from column chromatography (silica gel, DCM/MeOH = 100:0 to 90:10) to give 0.25 g (58 %) of cis-4-(4-isopropyl-quinazolin-2-ylamino)-cyclohexanecarboxylic acid ethyl ester.

ESI MS m/e 342 M + H^+; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.90 (d, J = 8.0 Hz, 1 H), 7.60 (m, 1 H), 7.55 (d, J = 8.0 Hz, 1 H), 7.17 (t, J = 8.0 Hz, 1 H), 5.22 (d, J = 7.0 Hz, 1 H), 4.21(brs, 1 H), 4.16 (q, J = 7.0 Hz, 2 H), 3.74 (m, 1 H), 2.50 (m, 1 H), 1.96 (m, 2 H), 1.86-1.77 (m, 6 H), 1.36 (d, J = 7.0 Hz, 6 H), 1.27 (t, J = 7.0 Hz, 3 H).

Step D: Synthesis of cis-4-(4-isopropyl-quinazolin-2-ylamino)-cyclohexane carboxylic acid

A suspension of cis-4-(4-isopropyl-quinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl

ester (0.25 g, 0.7 mmol) in 4N-HCl (8 mL) was stirred for 3 h at 85 °C. During the reaction, the heterogenous solution turned to be a clear solution, and then the precipitate was formed. The solid was filtered, washed with cold water several times, and dried to give 0.13 g (58 %) of cis-4(4-isopropyl-quinazolin-2-ylamino)-cyclohexane carboxylic acid as a white solid.

ESI MS m/e 314 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.25 (brs, 1 H), 9.56 (brs, 1 H), 8.40-8.26 (m, 2 H), 8.01 (m, 1 H), 7.59 (m, 1 H), 4.31 (brs, 1 H), 4.03 (m, 1 H), 2.62 (brs, 1 H), 2.14 (m, 2 H), 1.93-1.66 (m, 6 H), 1.37 (d, J = 6.4 Hz, 6 H).

Step E: Synthesis of cis-N-benzyl-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexane-carboxamide trifluoroacetate.

cis-4-(4-Isopropyl-quinazolin-2-ylamino)-cyclohexane carboxylic acid (20 mg, 0.06 mmol) and benzyl amine (7 mg, 0.06 mmol) was reacted in the presence of HATU (25 mg, 0.066 mmol and Et_3N (4 drops) at room temperature for 16 hr. cis-N-benzyl-4-[(4-isopropylquinazolin-2-yl) amino]cyclohexanecarboxamide trifluoroacetate (13 mg, 40 %) was obtained from a prep-HPLC.

ESI MS m/e 403 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 9.06 (brs, 1 H), 8.24 (m, 2 H), 7.88 (brs, 1 H), 7.75-7.59 (m, 1 H), 7.45 (brs, 1 H), 7.25 (m, 2 H), 7.17 (m, 3 H), 4.24 (brs, 1 H), 4.23 (d, J = 6.0 Hz, 2 H), 3.92 (m, 1 H), 2.33 (brs, 1 H), 1.95-1.58 (m, 8 H), 1.26 (d, J = 6.4 Hz, 6 H).

Example 916

cis-N-(3-Chlorobenzyl)-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexanecarboxamide trifluoroacetate

Step A: Synthesis of

cis-N-(3-chlorobenzyl)-4-[(4-isopropylquinazolin-2-yl)amino]-cyclohexanearboxamide trifluoroacetate.

Using a similar procedure as described in step E of Example 915, the title compound was obtained.

ESI MS m/e 437 M + H+; 1H NMR (400 MHz, DMSO-d6) δ 9.04 (brs, 1 H), 8.30 (t, J = 5.4 Hz, 1 H), 8.20 (brs, 1 H), 7.86 (brs, 1 H), 7.71-7.57 (m, 1 H), 7.45 (brs, 1 H), 7.30-7.22 (m, 3 H), 7.15 (d, J = 8.0 Hz, 1 H), 4.24 (brs, 1 H), 4.23 (d, J = 6.0 Hz, 2 H), 3.92 (m, 1 H), 2.33 (brs, 1 H), 1.95-1.58 (m, 8 H), 1.26 (d, J = 6.6 Hz, 6 H).

Example 917

3,4-Dichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-benzamide trifluoroacetate

Step A: Synthesis of cis-(1R,3S)-3-tert-butoxycarbonylamino-cyclopentanecarboxylic acid ethylformate ester.

(1S,3R)-N-Boc-1-aminocyclopentane-3-carboxylic acid (10.00 g, 43.6 mmol) was dissolved in dichloromethane (100 mL) and cooled to – 65 °C. Triethylamine (9.19 mL, 65.9 mmol) and a solution of ethyl chloroformate (4.24 mL, 44.4 mmol) in dichloromethane (14 mL) were added and the mixture stirred at 0 °C for 1 hr. The mixture was acidified to pH ~6 with 1N HCl (aq) and extracted with dichloromethane. The organic phase was washed with saturated aqueous $NaHCO_3$, water, and brine, dried over Na_2SO_4, filtered, and concentrated to give cis-(1R,3S)-3-tert-butoxycarbonylamino-cyclopentanecarboxylic acid ethylformate ester as a clear oil. ESI MS m/e 302, M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 6.92 (brs, 1 H), 4.25 (q, J = 7.2 Hz, 2 H), 3.78 (m, 1 H), 2.98 (m, 1 H), 2.16 (m, 2 H), 1.84 (m, 2 H), 1.80 (m, 2 H), 1.38 (s, 9 H), 1.25 (t, J = 7.2 Hz, 3 H).

Step B: Synthesis of cis-(1S,3R)-(3-hydroxymethyl-cyclopentyl)-carbamic acid tert-butyl ester.

The 3-tert-butoxycarbonylamino-cyclopentanecarboxylic acid ethylformate ester was then dissolved in tetrahydrofuran (106 mL) and cooled to – 65 °C. Sodium borohydride (1.91 g, 50.5 mmol) and methanol (3.39 mL) were added and the mixture stirred at – 40 °C for 30 min., then at 0 °C for 3 hr. 10% HCl (aq) was added to pH 3 and the mixture was concentrated to half volume. Then it

was extracted with ethyl acetate, washed with water, brine, dried over Na_2SO_4, filtered, and concentrated to give (1S,3R)- (3-hydroxymethyl-cyclopentyl)-carbamic acid tert-butyl ester as a white solid (8.65 g, 92%).

ESI MS m/e 216, M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 6.74 (d, J = 6.8 Hz, 1 H), 4.46 (bt, J = 4.8 Hz, 1 H), 3.70 (m, 1 H), 3.25 (t, J = 5.6 Hz, 2 H), 1.92 (m, 2 H), 1.73 (m, 2 H), 1.55 (m, 2 H), 1.38 (s, 9 H), 1.05 (m, 1 H).

Step C: Synthesis of cis-(1S,3R)-[3-(1,3-dioxo-1,3-dihydro-isoindol-2-ylmethyl)-cyclopentyl]-carbamic acid tert-butyl ester.

cis-(1S,3R)-(3-Hydroxymethyl-cyclopentyl)-carbamic acid tert-butyl ester (8.65 g, 40.2 mmol), triphenylphosphine (10.54 g, 40.2 mmol), and phthalimide (5.91 g, 40.2 mmol) were dissolved in tetrahydrofuran (128 mL). The mixture was cooled to 0 ^{0}C and a solution of diethylazodicarboxylate (6.96 mL, 44.22 mmol) in tetrahydrofuran (30 mL) was added over a period of 1 hr. The mixture stirred at room temperature for 18 hr, concentrated, and purified by silica gel chromatography (30% ethyl acetate in hexanes) to give cis-(1S,3R)-[3-(1,3-dioxo-1,3-dihydro-isoindol-2-ylmethyl)-cyclopentyl]-carbamic acid tert-butyl ester (9.52 g, 69%) as a solid.

ESI MS m/e 345, M + H^+; ^1H NMR (400 MHz, DMSO-d_6) δ 7.83 (m, 4 H), 6.84 (dd, J = 11.2, 7.6 Hz, 1 H), 3.70 (m, 1 H), 3.54 (m, 2 H), 1.92 (m, 2 H), 1.73 (m, 2 H), .55 (m, 2 H), 1.38 (s, 9 H), 1.10 (m, 1 H).

Step D: Synthesis of cis-(1S,3R)-(3-aminomethyl-cyclopentyl)-carbamic acid tert-butyl ester.

The cis-(1S,3R)-[3-(1,3-dioxo-1,3-dihydro-isoindol-2-ylmethyl)-cyclopentyl]-carbamic acid tert-butyl ester was suspended in 95% ethanol (143 mL), hydrazine (1.89 mL, 60.3 mmol) was added, and the mixture was heated to reflux temperature (120 ^{0}C) for 2.5 hr, then stirred at room temperature for 18 hr. The suspension was concentrated, suspended in 10% NaOH (aq) (182 mL), extracted with dichloromethane, dried over Na_2SO_4, filtered, and concentrated to give

cis-(1S,3R)-(3-aminomethyl-cyclopentyl)-carbamic acid tert-butyl ester as a white solid (6.25 g, ~73%) (crude).

ESI MS m/e 215, M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 6.82 (d, J = 6.8 Hz, 1 H), 3.70 (m, 1 H), 1.92 (m, 2 H), 1.75 (m, 2H), 1.73 (m, 2 H), 1.58 (m, 2 H), 1.38 (s, 9 H), 1.30 (m, 2H), 1.00 (m, 1 H).

Step E: Synthesis of cis-(1S,3R)-N-(3-amino-cyclopentylmethyl)-3,4-dichloro-benzamide.

cis-(1S,3R)- (3-Aminomethyl-cyclopentyl)-carbamic acid tert-butyl ester (0.050 g, 0.230 mmol), 3,4-dichlorobenzoyl chloride (0.049 g, 0.230 mmol), and diisopropylethylamine (0.10 mL, 0.57 mmol) were combined in dichloromethane (2 mL) and stirred for 18 hr at room temperature. The mixture was concentrated, neutralized with saturated aqueous $NaHCO_3$, and extracted with dichloromethane. The organic phase was then concentrated to give cis-(1S,3R)-N-(3-amino-cyclopentylmethyl)-3,4-dichloro-benzamide as the crude product.

ES MS m/e 287, M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.72 (t, J = 5.6 Hz, 1 H), 8.04 (d, J = 2.0 Hz, 1 H), 7.78 (d, J = 2.0 Hz, 1 H), 7.74 (s, 1 H), 3.40 (m, 2 H), 2.80 (brs, 2 H), 2.15 (m, 1 H), 1.88 (m, 2 H), 1.70 (m, 1 H), 1.58 (m, 2 H), 1.48 (m, 2 H).

Step F: Synthesis of 3,4-dichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclopentyl)methyl]benzamide trifluoroacetate.

cis-(1S,3R)-(2-Chloro-quinazolin-4-yl)-dimethyl-amine (0.048 g, 0.23 mmol), N-(3-amino-cyclopentylmethyl)-3,4-dichloro-benzamide (0.23 mmol), diisopropylethylamine (0.061 mL, 0.34 mmol), and isopropanol (1.50 mL) were combined and heated to 160 ^{0}C for 40 min. utilizing a Smith synthesizer microwave apparatus. The mixture was then purified by HPLC to give 3,4-dichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]benzamide trifluoroacetate as a white solid (0.035 g, 26.6% over four steps).

ESI MS m/e 458, M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.70 (t, J = 5.2 Hz, 1 H), 8.20 (brs, 1 H), 8.14 (d, J = 8.0 Hz, 1 H), 8.04 (d, J = 1.6 Hz, 1 H), 7.80 (d, J = 2.0 Hz, 1 H), 7.78 (d, J = 2.0 Hz, 1 H), 7.74 (s, 1 H), 7.44 (brs, 1 H), 7.34 (t, J= 7.6 Hz, 1 H), 3.29 (t, J = 5.2 Hz, 2 H), 2.50 (s, 6 H), 2.24

(m, 1 H), 2.00 (m, 2 H), 1.76 (m, 1 H), 1.65 (m, 2 H), 1.50 (m, 2 H).

Example 918

N^2-[(1S,3R)-3-({[4-Bromo-2-(trifluoromethoxy)benzyl]amino}methyl)cyclopentyl]-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate

Step A: Synthesis of cis-(1S,3R)-3-[(4-bromo-2-trifluoromethoxy-benzylamino)-methyl]-cyclopentylamine.

(3-Aminomethyl-cyclopentyl)-carbamic acid tert-butyl ester (0.050 g, 0.23 mmol), 4-bromo-2-trifluoromethoxybenzaldehyde (0.063 g, 0.23 mmol), and sodium cyanoborohydride (0.022 g, 0.34 mmol) were combined in methanol (1.00 mL) and stirred at room temperature for 18 hrs. The mixture was concentrated, water (1.00 mL) was added, and it was extracted with dichloromethane. To the organic phase was added trifluoroacetic acid (1.00 mL) and the mixture stirred at room temperature for 18 hrs. The mixture was concentrated, neutralized with saturated aqueous $NaHCO_3$, extracted with dichloromethane, and concentrated to give (1S,3R)-3-[(4-bromo-2-trifluoromethoxy-benzylamino)-methyl]-cyclopentylamine as the crude product.

ESI MS m/e 367, $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 7.75-7.62 (m, 3 H), 4.58 (s, 1 H), 3.77 (s, 2 H), 3.35 (brs, 2 H), 2.48 (m, 2 H), 2.04 (m, 1 H), 1.74 (m, 2 H), 1.38 (m, 2 H), 1.30 (m, 2 H), 0.98 (m, 1 H).

Step B: Synthesis of N^2-[(1S,3R)-3-({[4-bromo-2-(trifluoromethoxy)benzyl]amino}methyl)-cyclopentyl]-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate.

(2-Chloro-quinazolin-4-yl)-dimethyl-amine (0.048 g, 0.23 mmol), (1S,3R)-3-[(4-bromo-2-trifluoromethoxy-benzylamino)-methyl]-cyclopentylamine (0.23 mmol), diisopropylethylamine (0.061 mL, 0.34 mmol), and isopropanol (1.50 mL) were combined and heated to 160 ^{0}C for 40 min. utilizing a SmithSynthesizer microwave apparatus. The mixture was then

purified by HPLC to give

N^2-[(1S,3R)-3-({[4-bromo-2-(trifluoromethoxy)benzyl]amino}methyl)cyclopentyl]-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate as a white solid (0.011 g, 6.2% over four steps).

ESI MS m/e 538, M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.45 (brs, 1 H), 8.14 (d, J = 12.0 Hz, 1 H), 7.72 (d, J = 2.0 Hz, 1 H), 7.68 (d, J = 2.0 Hz, 1 H), 7.63 (s, 1 H), 7.58 (d, J = 2.0 Hz, 1 H), 7.44 (brs, 1 H), 7.29 (bt, J = 7.6 Hz, 1 H), 4.18 (s, 2 H), 3.40 (s, 2 H), 3.40 (s, 6H) 2.25 (m, 2 H), 1.98 (m, 1 H), 1.82 (m, 2 H), 1.60 (m, 2 H), 1.40 (m, 2 H), 1.22 (m, 1 H).

Example 919

N-[(1S,3R)-3-({[4-(Dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-4-fluorobenzamide trifluoroacetate

Step A: Synthesis of (1R,3S)-N^2-(3-amino-cyclopentylmethyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine.

(2-Chloro-quinazolin-4-yl)-dimethyl-amine (0.048 g, 0.23 mmol), (1S,3R)-(3-aminomethyl-cyclopentyl)-carbamic acid tert-butyl ester (0.050 g, 0.23 mmol), diisopropylethylamine (0.061 mL, 0.34 mmol), and isopropanol (1.50 mL) were combined and heated to 160 ^{0}C for 40 min. utilizing a Smith synthesizer microwave apparatus. The mixture was concentrated, dichloromethane (2.00 mL) and trifluoroacetic acid (1.00 mL) were added, and the mixture stirred at room temperature for 18 hr. Then it was concentrated, neutralized with saturated aqueous $NaHCO_3$, extracted with dichloromethane, and concentrated to give (1R,3S)-N^2-(3-amino-cyclopentylmethyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine as the crude product.

ESI MS m/e 286, M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 7.92 (d, J = 8.0 Hz, 1 H), 7.53 (t, J = 6.0 Hz, 1 H), 7.34 (d, J = 8.0 Hz, 1 H), 7.06 (t, J = 6.0 Hz, 1 H), 6.78 (brs, 1 H), 3.25 (s, 6 H), 2.28 (m, 2 H), 2.10 (m, 2 H), 1.86 (m, 1 H), 1.75 (m, 2 H), 1.52 (m, 2 H), 1.30 (brs, 2 H), 1.17 (m, 1 H).

Step B: Synthesis of N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)-cyclopentyl]-4-fluorobenzamide trifluoroacetate.

cis-(1R,3S)-N^2-(3-Amino-cyclopentylmethyl)-N^4, N^4-dimethyl-quinazoline-2,4-diamine (0.23 mmol), 4-fluorobenzoyl chloride (0.028 mL, 0.23 mmol), and diisopropylethylamine (0.10 mL, 0.57 mmol) were combined in dichloromethane (2.00 mL) at room temperature and stirred for 18 hrs. The mixture was concentrated, dissolved in methanol, and purified by prep-LCMS to give N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-4-fluorobenzamide trifluoroacetate as a white solid (5 mg, 4.1 % over four steps).

ESI MS m/e 408, M + H^+; ^{1}H NMR (400 MHz, CD_3OD) δ 8.09 (d, J = 8.0 Hz, 1 H), 7.76 (d, J = 5.3 Hz, 2 H), 7.74 (d, J = 5.3 Hz, 2 H), 7.66 (t, J = 8.3 Hz, 1 H), 7.30 (bm, 2 H), 7.07 (t, J = 4.9 Hz, 1 H), 4.25 (m, 1 H), 3.45 (brs, 6 H), 2.25 (m, 2 H), 2.00 (m, 1 H), 1.70 (m, 2 H), 1.62 (m, 2 H), 1.52 (m, 2 H), 1.26 (m, 1 H).

Example 920

N^2-({(1R,3S)-3-[(3,4-Difluorobenzyl)amino]cyclopentyl}methyl)-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate.

Step A: Synthesis of

N^2-({(1R,3S)-3-[(3,4-difluorobenzyl)amino]cyclopentyl}methyl)-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate.

(1R,3S)-N^2-(3-Amino-cyclopentylmethyl)-N^4, N^4-dimethyl-quinazoline-2,4-diamine (0.23 mmol), 3,4-difluorobenzaldehyde (0.026 mL, 0.23 mmol), and sodium cyanoborohydride (0.022 g, 0.34 mmol) were combined in methanol (1.00 mL) and stirred at room temperature for 18 hr. Water (0.50 mL) was added and the mixture was then purified by prep-LCMS to give N^2-({(1R,3S)-3-[(3,4-difluorobenzyl)amino]cyclopentyl}methyl)-N^4,N^4-dimethylquinazoline-2,4-diamine bistrifluoroacetate as a white solid (0.011 g, 7.4% over four steps).

ESI MS m/e 412, M + H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 8.83 (brs, 1 H), 8.12 (d, J = 7.7 Hz, 1

H), 7.73 (t, J = 4.9 Hz, 1 H), 7.55 (t, J = 9.7 Hz, 1 H), 7.50 (q, J = 8.9 Hz, 1 H), 7.31 (m, 2 H), 4.09 (brs, 1 H), 3.42 (brs, 6 H), 3.36 (brs, 1 H), 2.18 (m, 2 H), 1.95 (m, 1 H), 1.69 (m, 2 H), 1.42 (m, 2 H), 1.26 (m, 2 H), 1.18 (brs, 2 H), 0.81 (m, 1 H).

Example 921

cis-1-(2,3-Dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-4-amino-cyclohexanecarboxylic acid ethyl ester hydrochloride.

To a suspension of cis-aminocyclohexane-4-carboxylic acid (1.5 g, 10 mmol) in EtOH (15 mL) was added concentrated HCl (1.5 mL). The reaction was stirred for 2 hr at 72 ^{0}C. Removal of the volatile solvent under a vacuum gave cis-4-amino-cyclohexanecarboxylic acid ethyl ester hydrochloride (1.7 g, 96 %) as a white power, which was used directly to the next reaction without a further purification.

ESI MS m/e 172 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 4.43 (brs, 2 H), 4.05 (q, J = 7.2 Hz, 2 H), 3.02 (brs, 1 H), 2.48 (m, 1 H), 1.93 (m, 2 H), 1.76 (m, 2 H), 1.43-1.57 (m, 4 H), 1.17 (t, J = 7.2 Hz, 3 H).

Step B: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl ester.

The reaction was done in seven vials. Each vial contains 2-chloro-4-N,N-dimethylamino quinazoline (0.26 g, 1.25 mmol), cis-(4-ethoxycarbonyl)aminocyclohexane hydrochloride (0.25 g, 1 eq.), DIEA (0.45 mL, 2 eq.), and IPA (2 mL). The vials were heated at 155 °C for 1 hr using a Smith microwave synthesizer. The vial contents were combined and concentrated. The residue was purified on silica gel column using CH_2Cl_2/MeOH (100:0 to 85:15) to give cis-4(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl ester (2.2 g, 76 %)

as pale yellow oil.

ESI MS m/e 343 M + H^+; ^{1}H NMR (400 MHz, MeOD) δ 8.17 (d, J = 8.0 Hz, 1 H), 7.76 (t , J = 8.0 Hz, 1 H), 7.40 (brs, 1 H), 7.40 (t, J = 8.0 Hz, 1H), 4.60 (brs, 1 H), 4.16 (q, J = 6.8 Hz, 2 H), 3.53 (s, 6 H), 2.59 (m, 1 H), 1.97-1.63 (m, 8 H), 1.27 (t, J = 6.8 Hz, 3 H), the

Step C: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid.

A suspension of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid ethyl ester (0.35 g, 1 mmol) in 4N-HCl (10 mL) was stirred at 82 °C for 2 h. During the reaction, the heterogenous solution turned to be a clear solution, and then the precipitate was formed. The solid was filtered, washed with cold water several times, and dried to give 0.29 g (90 %) of cis-4(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid as a white solid.

ESI MS m/e 315 M +H^+; ^{1}H NMR (400 MHz, DMSO-d_6) δ 12.3 (brs, 1 H), 8.13 (d, J = 7.6 Hz, 2 H), 7.74 (t, J = 7.6 Hz, 1 H), 7.37 (brs, 1 H), 7.36 (t, J = 7.6 Hz, 1 H), 4.05 (brs, 1 H), 3.32 (s, 6 H), 2.42 (brs, 1 H), 1.82 ~ 1.68 (m, 8 H).

Step D: Synthesis of cis-N-(2,3-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexanecarboxamide

To a suspension of the acid (25 mg, 0.08 mmol) and the 2,3 dimethoxy benzyl amine (13 mg, 0.08 mmol) in DCM (3 mL) was added HATU (33 mg, 0.088 mmol), and followed Et_3N (4 drops). The reaction was stirred overnight at room temperature under an inert atmosphere. After removal of the volatile solvent, the crude product was purified by column chromatography (silica gel, DCM/MeOH = 100:0 to 90:10) to give cis-N-(2,3-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamid e (8 mg, 21 %).

ESI MS m/e 464 M + H^+; ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.34 (brs, 1 H), 7.89 (d, J = 8.4 Hz, 1 H), 7.57 (t, J = 6.8 Hz, 1 H), 7.33 (d, J = 8.0 Hz, 1 H), 7.23 (t, J = 7.6 Hz, 1 H), 7.07 (brs, 1 H), 6.95 (t, J = 7.6 Hz, 1 H), 6.89 (d, J = 8.0 Hz, 1 H), 6.76 (d, J = 8.0 Hz, 1 H), 4.56 (d, J = 5.6 Hz, 2 H), 4.30 (m,

1 H), 3.83 (s, 3 H), 3.80 (s, 3 H), 3.48 (s, 6 H), 2.35 (m, 1 H), 2.05-1.82 (m, 6 H), 1.66 (m, 2 H).

Example 922

cis-N-(2,4-Difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(2,4-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 440 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.92 (d, J = 8.0 Hz, 1 H), 7.61 (t, J = 8.0 Hz, 1 H), 7.28 (m, 3 H), 7.17 (brs, 1 H), 6.82 (brs, 1 H), 6.76 (t, J = 8.0 Hz, 1 H), 6.67 (t, J = 8.0 Hz, 1 H), 4.41 (d, J = 6.0 Hz, 2 H), 4.31 (brs, 1 H), 3.51 (s, 6 H), 2.39 (m, 1 H), 1.96-1.66 (m, 8 H).

Example 923

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2,3-dimethylbenzyl)cyclohexane carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3-dimethylbenzyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 432 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.91 (d, J = 8.4 Hz, 1 H), 7.58 (t, J = 7.6 Hz, 1 H), 7.27 (t, J = 7.6 Hz, 1 H), 7.13 (d, J = 7.6 Hz, 1 H), 7.06 (m, 1 H), 6.99 (d, J = 4.4 Hz, 2 H), 6.90 (brs, 1 H), 6.45 (brs, 1 H), 4.41 (d, J = 6.0 Hz, 2 H), 4.25 (brs, 1 H), 3.50 (s, 6 H), 2.41 (m, 1 H),

2.21 (s, 3 H), 2.14 (s, 3 H), 1.96-1.72 (m, 8 H).

Example 924

cis-N-(2-Bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(2-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 482 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.91 (d, J = 8.4 Hz, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.43 (d, J = 7.6 Hz, 1 H), 7.31-7.21 (m, 4 H), 7.05 (t, J = 7.2 Hz, 1 H), 6.82 (brs, 1 H), 6.59 (brs, 1 H), 4.48 (d, J = 6.0 Hz, 2 H), 4.30 (brs, 1 H), 3.52 (s, 6 H), 2.41 (m, 1 H), 1.97-1.64 (m, 8 H).

Example 925

cis-N-(2,4-Dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(2,4-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 472 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.91 (d, J = 8.0 Hz, 1 H), 7.61 (t, J = 8.0 Hz, 1 H), 7.28 (t, J = 7.6 Hz, 1 H), 7.25-7.19 (m, 3 H), 7.12 (d, J = 8.0 Hz, 1 H), 6.98 (brs, 1 H), 6.83 (brs, 1 H), 4.43 (d, J = 6.0 Hz, 2 H), 4.31 (brs, 1 H), 3.52 (s, 6 H), 2.42 (m, 1 H), 1.96-1.67 (m, 8 H).

Example 926

cis-N-(2,3-Dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(2,3-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 472 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.17 (d, J = 8.4 Hz, 1 H), 7.75 (t, J = 7.6 Hz, 1 H), 7.45-7.37 (m, 3 H), 7.30-7.24 (m, 2 H), 4.48 (s, 2 H), 4.26 (brs, 1 H), 3.54 (s, 6 H), 2.49 (m, 1 H), 1.99-1.77 (m, 8 H).

Example 927

cis-N-(2,5-Dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(2,5-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 472 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.90 (d, J = 8.4 Hz, 1 H), 7.66 (t, J = 7.6 Hz, 1 H), 7.58 (brs, 1 H), 7.39 (d, J = 8.0 Hz, 1 H), 7.31-7.19 (m, 3 H), 7.10 (d, J = 8.4 Hz, 1 H), 7.01 (brs, 1 H), 4.48 (d, J = 6.0 Hz, 2 H), 4.39 (brs, 1 H), 3.53 (s, 6 H), 2.42 (m, 1 H), 1.98-1.90 (m, 6 H), 1.63 (m, 2 H).

Example 928

cis-N-(2-Chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(2-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 438 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.90 (d, J = 8.4 Hz, 1 H), 7.60 (t, J = 8.0 Hz, 1 H), 7.31-7.09 (m, 6 H), 6.77 (d, J = 6.8 Hz, 1 H), 6.66 (brs, 1 H), 4.49 (d, J = 6.0 Hz, 2 H), 4.27 (brs, 1 H), 3.51 (s, 6 H), 2.43 (m, 1 H), 1.95-1.68 (m, 8 H).

Example 929

cis-N-(3-Chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(3-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 438 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.13 (d, J = 8.0 Hz, 1 H), 7.72 (t, J = 7.6 Hz, 1 H), 7.49-7.19 (m, 6 H), 4.35 (s, 2 H), 4.23 (brs, 1 H), 3.51 (s, 6 H), 2.44 (m, 1 H), 2.01-1.74 (m, 8 H).

Example 930

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxybenzyl)cyclohexane-

carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxybenzyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 434 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.90 (d, J = 8.4 Hz, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.29 (t, J = 8.0 Hz, 1 H), 7.22 (m, 1 H), 7.14 (t, J = 8.0 Hz, 1 H), 6.85-6.78 (m, 3 H), 6.71 (d, J = 8.0 Hz, 1 H), 6.63 (brs, 1 H), 4.38 (d, J = 6.0 Hz, 2 H), 4.29 (brs, 1 H), 3.51 (s, 6 H), 2.40 (m, 1 H), 1.95-1.66 (m, 8 H).

Example 931

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(4-methylbenzyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-methylbenzyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 418 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.80 (brs, 1 H), 7.90 (d, J = 8.4 Hz, 1 H), 7.63 (t, J = 8.0 Hz, 1 H), 7.29 (t, J = 8.0 Hz, 1 H), 7.16 (d, J = 8.0 Hz, 2 H), 7.06 (d, J = 8.0 Hz, 2 H), 6.77 (d, J = 7.2 Hz, 1 H), 6.48 (brs, 1 H), 4.37 (d, J = 5.6 Hz, 2 H), 4.29 (brs, 1 H), 3.52 (s, 6 H), 2.37 (m, 1 H), 2.27 (s, 3 H), 1.96-1.62 (m, 8 H).

Example 932

cis-N-[3,5-Bis(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexa

necarboxamide

Step A: Synthesis of cis-N-[3,5-bis(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 540 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.91 (brs, 1 H), 8.22 (brs, 1 H), 7.88 (d, J = 7.6 Hz, 1 H), 7.78 (s, 2 H), 7.68 (s, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.40 (d, J = 8.0 Hz, 1 H), 7.24 (t, J = 7.6 Hz, 1 H), 4.55 (d, J = 5.6 Hz, 2 H), 4.38 (m, 1 H), 3.49 (s, 6 H), 2.44 (m, 1 H), 2.19 (m, 2 H), 1.95 (m, 4 H), 1.62 (m, 2 H).

Example 933

cis-N-(2,4-Dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(2,4-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 464 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.53 (brs, 1 H), 7.88 (d, J = 7.6 Hz, 1 H), 7.60 (t, J = 8.0 Hz, 1 H), 7.40 (d, J = 7.6 Hz, 1 H), 7.23 (t, J = 7.6 Hz, 1 H), 7.16 (d, J = 8.4 Hz, 1 H), 6.83 (brs, 1 H), 6.38 (m, 2 H), 4.37 (d, J = 6.0 Hz, 2 H), 4.29 (m, 1 H), 3.82 (s, 3 H), 3.75 (s, 3 H), 3.48 (s, 6 H), 2.32 (m, 1 H), 2.09-1.82 (m, 6 H), 1.66 (m, 2 H).

Example 934

cis-N-(3,4-Dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(3,4-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 464 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.74 (brs, 1 H), 7.87 (d, J = 8.0 Hz, 1 H), 7.61 (t, J = 7.6 Hz, 1 H), 7.41 (d, J = 8.0 Hz, 2 H), 7.23 (t, J = 7.2 Hz, 1 H), 6.91 (m, 2 H), 6.76 (d, J = 8.0 Hz, 1 H), 4.37 (d, J = 6.0 Hz, 2 H), 4.36 (m, 1 H), 3.87 (s, 3 H), 3.81 (s, 3 H), 3.48 (s, 6 H), 2.37 (m, 1 H), 2.09 (m, 2 H), 1.83 (m, 4 H), 1.63 (m, 2 H).

Example 935

cis-N-(3,5-Dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(3,5-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 464 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.32 (brs, 1 H), 7.88 (d, J = 7.6 Hz, 1 H), 7.59 (t, J = 7.6 Hz, 1 H), 7.34 (d, J = 8.0 Hz, 1 H), 7.23 (t, J = 7.6 Hz, 2 H), 6.46 (d, J = 2.0 Hz, 2 H), 6.25 (t, J = 2.0 Hz, 1 H), 4.36 (d, J = 6.0 Hz, 2 H), 4.34 (bm, 1 H), 3.73 (s, 6 H), 3.48 (s, 6 H), 2.39 (m, 1 H), 2.06-1.83 (m, 6 H), 1.65 (m, 2 H).

Example 936

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(4-hydroxy-3-methoxybenzyl)-cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-hydroxy-3-methoxybenzyl)cyclohexane carboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 450 M $+H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.02 (brs, 1 H), 7.88 (d, J = 7.6 Hz, 1 H), 7.63 (t, J = 8.0 Hz, 1 H), 7.36 (d, J = 8.0 Hz, 1 H), 7.26 (t, J = 8.0 Hz, 1 H), 7.04 (brs, 1 H), 6.90 (d, J = 1.2 Hz, 1 H), 6.79 (m, 2 H), 4.33 (d, J = 6.0 Hz, 3 H), 3.87 (s, 3 H), 3.55 (s, 1 H), 3.50 (s, 6 H), 2.37 (m, 1 H), 1.93-1.83 (m, 6 H), 1.65 (m, 2 H).

Example 937

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(3,4,5-trimethoxybenzyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3,4,5-trimethoxybenzyl)cyclohexane carboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 494 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.90 (d, J = 8.4 Hz, 1 H), 7.66 (t, J = 8.0 Hz, 1 H), 7.30 (m, 2 H), 6.78 (d, J = 7.2 Hz, 1 H), 6.56 (s, 3 H), 4.34 (d, J = 6.0 Hz, 3 H), 3.82 (s, 6 H), 3.78 (s, 3 H), 3.52 (s, 6 H), 2.38 (m, 1 H), 1.97~1.62 (m, 8 H).

Example 938

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2,4,6-trimethoxybenzyl)cyclohexanecarboxamide

Step A: Synthesis of **cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,4,6-trimethoxybenzyl)cyclohexanecarboxamide.**

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 494 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.48 (brs, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.60 (t, J = 8.0 Hz, 1 H), 7.44 (d, J = 6.8 Hz, 1 H), 7.22 (t, J = 8.0 Hz, 1 H), 6.28 (brs, 1 H), 6.09 (s, 2 H), 4.45 (d, J = 5.2 Hz, 2 H), 4.20 (brs, 1 H), 3.83 (s, 6 H), 3.78 (s, 3 H), 3.48 (s, 6 H), 2.26 (m, 1 H), 1.97-1.65 (m, 8 H).

Example 939

cis-N-(1,3-Benzodioxol-5-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of **cis-N-(1,3-benzodioxol-5-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.**

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 448 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.52 (brs, 1 H), 7.89 (d, J = 7.6 Hz, 1 H), 7.59 (t, J = 8.0 Hz, 1 H), 7.39 (brs, 1 H), 7.44 (d, J = 8.0 Hz, 1 H), 7.23 (t, J = 7.6 Hz, 1 H), 6.79 (s, 1 H), 6.75 (d, J = 8.0 Hz, 1 H), 6.66 (d, J = 8.0 Hz, 1 H), 5.84 (s, 2 H), 4.35 (m, 1 H), 4.32 (d, J = 6.0 Hz, 2 H), 3.48 (s, 6 H), 2.37 (m, 1 H), 2.05 (m, 2 H), 1.87 (m, 4 H), 1.63 (m, 2 H).

Example 940

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2,2-diphenylethyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,2-diphenylethyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 494 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.56 (t, J = 7.6 Hz, 1 H), 7.46 (d, J = 8.4 Hz, 1 H), 7.27-7.15 (m, 13 H), 4.38 (brs, 1 H), 4.27 (brs, 1 H), 3.91 (dd, J = 8.0, 6.0 Hz, 2 H), 3.39 (s, 6 H), 2.16 (m, 1 H), 1.79 (m, 4 H), 1.60 (m, 4 H).

Example 941

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(1,2,3,4-tetrahydronaphthalen-1-yl)cyclo hexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(1,2,3,4-tetrahydronaphthalen-1-yl)cycloh exanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 444 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.89 (d, J = 7.6 Hz, 1 H), 7.63 (t, J = 7.6 Hz, 1 H), 7.34-7.03 (m, 6 H), 6.80 (brs, 1 H), 6.09 (d, J = 8.4 Hz, 1 H), 5.15 (q, J = 6.8 Hz, 1 H), 4.27 (brs, 1 H), 3.52 (s, 6 H), 2.83 (m, 1 H), 2.70 (m, 1 H), 2.36 (m, 1 H), 2.04-1.72 (m, 12 H).

Example 942

cis-N-(2,3-Dihydro-1H-inden-2-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(2,3-dihydro-1H-inden-2-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 430 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.91 (d, J = 8.4 Hz, 1 H), 7.63 (t, J = 8.0 Hz, 1 H), 7.28 (m, 2 H), 7.15 (m, 2 H), 7.09 (m, 2 H), 6.83 (d, J = 6.8 Hz, 1 H), 6.34 (d, J = 6.8 Hz, 1 H), 4.63 (m, 1 H), 4.29 (brs, 1 H), 3.51 (s, 6 H), 3.24 (m, 2 H), 2.97 (m, 2H), 2.33 (m, 1 H), 1.97-1.68 (m, 8 H).

Example 943

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[2-(5-methoxy-1H-indol-3-yl)ethyl]cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-(5-methoxy-1H-indol-3-yl)ethyl]cyclohexanecarboxamid.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 487 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.32 (brs, 1 H), 7.89 (d, J = 8.4 Hz, 1 H), 7.53 (t, J = 8.0 Hz, 1 H), 7.40 (d, J = 8.4 Hz, 1 H), 7.22 (d, J = 8.4 Hz, 1 H), 7.10 (t, J = 7.6 Hz, 1 H), 7.02 (s, 2 H), 6.81 (dd, J = 8.8, 2.0 Hz, 1 H), 5.80 (brs, 1 H), 4.21 (brs, 1 H), 3.84 (s, 3 H), 3.59 (q, J

= 6.0 Hz, 2 H), 3.34 (s, 6 H), 2.95 (t, J = 6.4 Hz, 2 H), 2.19 (m, 1 H), 1.85 (m, 2 H), 1.72-1.63 (m, 6 H).

Example 944

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(4-nitrophenyl)ethyl]-cyclohexanecarboxamide

Step A: Synthesis of

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(4-nitrophenyl)ethyl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 463 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.13 (d, J = 8.8 Hz, 2 H), 7.88 (d, J = 7.6 Hz, 2 H), 7.63 (m, 3 H), 7.43 (d, J = 7.6 Hz, 1 H), 7.24 (t, J = 7.6 Hz, 1 H), 5.13 (m, 1 H), 4.44 (m, 1 H), 3.48 (s, 6 H), 2.35 (m, 1 H), 2.16 (m, 2 H), 1.88 (m, 4 H), 1.76 (m, 1 H), 1.63 (m, 1 H), 1.61 (d, J = 7.2 Hz, 3 H).

Example 945

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-nitrophenyl)ethyl]-cyclohexane carboxamide

Step A: Synthesis of

cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-nitrophenyl)ethyl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 463 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.13 (d, J = 8.8 Hz, 2 H), 7.88 (d, J = 7.6 Hz, 2 H), 7.63 (m, 3 H), 7.43 (d, J = 7.6 Hz, 1 H), 7.24 (t, J = 7.6 Hz, 1 H), 5.13 (m, 1 H), 4.45 (m, 1 H), 3.49 (s, 6 H), 2.35 (m, 1 H), 2.16 (m, 2 H), 1.88 (m, 4 H), 1.77 (m, 1 H), 1.63 (m, 1 H), 1.61 (d, J = 7.2 Hz, 3 H).

Example 946

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1R,2S)-2-hydroxy-2,3-dihydro-1H-inden-1-yl]cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R,2S)-2-hydroxy-2,3-dihydro-1H-inden-1-yl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 446 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.85 (d, J = 8.0 Hz, 1 H), 7.59 (t, J = 7.6 Hz, 1 H), 7.39 (d, J = 8.0 Hz, 1 H), 7.29-7.15 (m, 6 H), 7.12 (brs, 1 H), 5.39 (m, 1 H), 4.69 (brs, 1 H), 4.39 (m, 1 H), 4.23 (brs, 1 H), 3.47 (s, 6 H), 3.12 (m, 2 H), 2.47 (m, 1 H), 2.16-1.88 (m, 6 H), 1.67 (m, 2 H).

Example 947

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1S,2R)-2-hydroxy-2,3-dihydro-1H-inden-1-yl]cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S,2R)-2-hydroxy-2,3-dihydro-1H-inden-1-yl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 446 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.73 (brs, 1 H), 7.86 (d, J = 8.0 Hz, 1 H), 7.59 (t, J = 8.0 Hz, 1 H), 7.38 (d, J = 8.4 Hz, 1 H), 7.28-7.15 (m, 5 H), 7.11 (brs, 1 H), 5.38 (m, 1 H), 4.69 (m, 1 H), 4.39 (m, 1 H), 4.28 (brs, 1 H), 3.48 (s, 6 H), 3.12 (m, 2 H), 2.47 (m, 1 H), 2.16-1.88 (m, 6 H), 1.67 (m, 2 H).

Example 948

cis-4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid (trans 2-phenylcyclopropyl)-amide

Step A: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid (2-phenylcyclopropyl)-amide.

Using a similar procedure as described in step D of Example 921, the title compound was obtained.

ESI MS m/e 430 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.89 (d, J = 7.6 Hz, 1 H), 7.64 (t, J = 7.6 Hz, 1 H), 7.28 (t, J = 8.0 Hz, 2 H), 7.09-7.01 (m, 6 H), 6.65 (brs, 1 H), 4.28 (brs, 1 H), 3.50 (s, 6 H), 2.92 (brs, 1 H), 2.40 (brs, 1 H), 2.13 (m, 1 H), 1.95-1.68 (m, 8 H), 1.31 (m, 1 H), 1.17 (m, 1 H).

Example 949

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-methylphenyl)ethyl]-cyclohexanecarboxamide trifluoroacetate

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-methylphenyl)ethyl]cyclohexanecarboxamide trifluoroacetate.

Using a similar procedure as described in step D of Example 921, the product was purified by prep HPLC to give the title compound.

ESI MS m/e 432 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.72 (brs, 1 H), 8.10 (d, J = 8.0 Hz, 1 H), 8.08 (brs, 1 H), 7.90 (brs, 1 H), 7.71 (t, J = 8.0 Hz, 1 H), 7.37 (brs, 1 H), 7.30 (t, J = 8.0 Hz, 1 H), 7.11 (d, J = 8.0 Hz, 2 H), 7.04 (d, J = 8.0 Hz, 2 H), 4.81 (m, 1 H), 4.10 (brs, 1 H), 3.36 (s, 6 H), 2.26 (brs, 1 H), 2.19 (s, 3 H), 1.80-1.51 (m, 8 H), 1.24 (d, J = 7.2 Hz, 3 H).

Example 950

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(1-naphthyl)ethyl]cyclohexane-carboxamide trifluoroacetate

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(1-naphthyl) ethyl]cyclohexanecarboxamide trifluoroacetate.

Using a similar procedure as described in step D of Example 921, the product was purified by prep HPLC to give the title compound.

ESI MS m/e 468 M + H$^+$; ^{1}H NMR (400 MHz, DMSO-d_6) δ 11.8 (brs, 1 H), 8.30 (d, J = 7.6 Hz, 1 H), 8.10 (d, J = 8.0 Hz, 1 H), 8.03 (d, J = 8.0 Hz, 1 H), 7.94 (brs, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.75 (d, J = 8.0 Hz, 1 H), 7.70 (t, J = 7.6 Hz, 1 H), 7.48-7.40 (m, 4 H), 7.36 (brs, 1 H), 7.29 (t, J = 7.6 Hz, 1 H), 5.64 (m, 1 H), 4.09 (brs, 1 H), 3.40 (s, 6 H), 2.28 (brs, 1 H), 1.84-1.50 (m, 8 H), 1.42 (d, J = 7.0 Hz, 3 H).

Example 951

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethyl)benzyl]cyclohexane-carboxamide

Step A: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane

carbonyl chloride.

To a suspension of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid (0.34 g, 1.0 mmol) in CH_2Cl_2 (20 mL) was added 2M-oxalyl chloride (7.4 mL, 1.3 eq.) in CH_2Cl_2 under an inert atmosphere. The reaction was stirred for 18 hr at room temperature. The reaction changed to a clear solution. Removal of the volatile solvent gave the crude cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carbonyl chloride (0.35 g, 97 %), which was directly used to the next reaction without a further purification (When the acid chloride reacted with EtOH, the formation of 343 M $+H^+$ of the ethyl ester) was observed by LC-MS).

Step B: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethyl)-benzyl]cyclohexanecarboxamide.

To a solution of the acid chloride (24 mg, 0.07 mmol), obtained from Step A, in DCM (3 mL) was added the 3-trifluoromethylbenzyl amine (13 mg, 0.07 mmol) and followed DIEA (3 drops). After stirring overnight at room temperature, the reaction was quenched and purified using column chromatography (silica gel, DCM/MeOH = 100:0 to 90:10) to give cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethyl)benzyl]cyclohexanecarboxamide (18 mg, 53 %).

ESI MS m/e 472 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.57-7.38 (m, 7 H), 7.12 (t, J = 7.2 Hz, 1 H), 4.50 (d, J = 6.0 Hz, 2 H), 4.35 (brs, 1 H), 3.37 (s, 6 H), 2.36 (m, 1 H), 2.06-1.82 (m, 6 H), 1.66 (m, 2 H).

Example 952

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxyphenyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methoxyphenyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 420 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.85 (d, J = 7.6 Hz, 1 H), 7.56 (m, 2 H), 7.45 (d, J = 7.6 Hz, 1 H), 7.37 (brs, 1 H), 7.17 (m, 2 H), 6.59 (d, J = 8.0 Hz, 1 H) 4.42 (brs, 1 H), 3.81 (s, 3 H), 3.44 (s, 6 H), 2.45 (m, 1 H), 2.18 (m, 2 H), 1.94 (m, 4 H), 1.67 (m, 2 H).

Example 953

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2-methoxybenzyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-methoxybenzyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 434 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.83 (d, J = 8.0 Hz, 1 H), 7.56 (t, J = 7.2 Hz, 1 H), 7.45 (d, J = 8.0 Hz, 1 H), 7.27-7.14 (m, 4 H), 6.88 (t, J = 7.6 Hz, 1 H), 6.83 (d, J = 8.0 Hz, 1 H), 4.45 (d, J = 5.6 Hz, 2 H), 4.31 (brs, 1 H), 3.86 (s, 3 H), 3.40 (s, 6 H), 2.31 (m, 1 H), 2.02-1.82 (m, 6 H), 1.66 (m, 2 H).

Example 954

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(3-iodobenzyl)cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-iodobenzyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 530 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.86 (d, J = 8.4 Hz, 1 H), 7.66 (s, 1 H), 7.65 (d, J = 7.6 Hz, 1 H), 7.54 (m, 2 H), 7.44 (d, J = 8.0 Hz, 1 H), 7.32 (d, J = 8.0 Hz, 1 H), 7.25 (d, J = 8.0 Hz, 1 H), 7.19 (t, J = 7.6 Hz, 1 H), 7.03 (m, 2 H), 4.40 (d, J = 6.0 Hz, 3 H), 3.44 (s, 6 H), 2.38 (m, 1 H), 2.06 (m, 2 H), 1.89 (m, 4 H), 1.63 (m, 2 H).

Example 955

cis-N-(3,5-Dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(3,5-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 472 M +H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, J = 8.0 Hz, 1 H), 7.57 (t, J = 7.6 Hz, 1 H), 7.44 (d, J = 8.0 Hz, 1 H), 7.19 (bm, 4 H), 4.40 (d, J = 6.0 Hz, 3 H) 3.42 (s, 6 H), 2.38 (m, 1 H), 2.05 (m, 2 H), 1.89 (m, 4 H), 1.65 (m, 2 H).

Example 956

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[4-(trifluoromethoxy)benzyl]-cyclohexane carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(trifluoromethoxy)benzyl]cyclohexanec arboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 488 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, J = 8.4 Hz, 1 H), 7.58 (t, J = 8.0 Hz, 1 H), 7.43 (d, J = 8.0 Hz, 1 H), 7.37-7.31 (m, 3 H), 7.19-7.11 (m, 4 H), 4.44 (d, J = 6.0 Hz, 2 H), 4.48 (brs, 1 H), 3.42 (s, 6 H), 2.36 (m, 1 H), 2.05 (m, 2 H), 1.89 (m, 4 H), 1.64 (m, 2 H).

Example 957

cis-N-(4-Bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxamide

Step A: Synthesis of cis-N-(4-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 488 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 7.87 (d, J = 8.4 Hz, 1 H), 7.75 (brs, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.44 (brs, 1 H), 7.42 (d, J = 8.0 Hz, 2 H), 7.38 (d, J = 8.4 Hz, 1 H), 7.24 (m, 1 H), 7.17 (d, J = 8.0 Hz, 2 H), 4.40 (d, J = 6.0 Hz, 3 H), 3.47 (s, 6 H), 2.38 (m, 1 H), 2.10 (m, 2 H), 1.87 (m, 4 H), 1.61 (m, 2 H).

Example 958

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(4-methoxybenzyl)cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(4-methoxybenzyl)-cyclohexanecarboxamide

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 434 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.85 (d, J = 8.4 Hz, 1 H), 7.60 (t, J = 7.6 Hz, 1 H), 7.45 (d, J = 8.4 Hz, 1 H), 7.28 (d, J = 8.8 Hz, 2 H), 7.19 (t, J = 7.6 Hz, 1 H), 6.82 (d, J = 8.4 Hz, 2 H), 4.39 (d, J = 6.0 Hz, 2H), 3.45 (s, 6 H), 2.35 (m, 1 H), 2.05 (m, 2 H), 1.87 (m, 4 H), 1.62 (m, 2 H).

Example 959

cis-N-(2,4-Dimethoxyphenyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(2,4-dimethoxyphenyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 450 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.16 (d, J = 8.8 Hz, 1 H), 7.83 (d, J = 8.0 Hz, 2 H), 7.55 (m, 1 H), 7.49 (m, 1 H), 7.13 (brs, 1 H), 6.45 (s, 1 H), 6.43 (m, 1 H), 4.27 (brs, 1 H), 3.89 (s, 3 H), 3.77 (s, 3 H), 3.39 (s, 6 H), 2.42 (m, 1 H), 2.04-1.96 (m, 6 H), 1.75 (m, 2 H).

Example 960

cis-N-(3,5-Dichlorophenyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-(3,5-dichlorophenyl)-4-{[4-(dimethylamino)quinazolin-2-yl]-amino}cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 458 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.86 (m, 3 H), 7.60 (t, J = 7.6 Hz, 1 H), 7.45 (d, J = 8.4 Hz, 1 H), 7.20 (t, J = 7.6 Hz, 1 H), 7.01 (s, 1 H), 4.44 (brs, 1 H), 3.45 (s, 6 H), 2.47 (m, 1 H), 2.18 (m, 2 H), 1.96 (m, 4 H), 1.66 (m, 2 H).

Example 961

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(3-iodophenyl)cyclohexanecarboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-iodophenyl)-cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 516 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.15 (s, 1 H), 7.83 (d, J = 8.0 Hz, 1 H), 7.63 (d, J = 7.2 Hz, 1 H), 7.54 (t, J = 7.6 Hz, 1 H), 7.44 (d, J = 8.0 Hz, 1 H), 7.38 (d, J = 7.6 Hz, 1 H), 7.11 (t, J = 7.6 Hz, 1 H), 7.00 (t, J = 7.6 Hz, 1 H), 4.37 (brs, 1 H), 3.36 (s, 6 H), 2.42 (m, 1 H), 2.09-1.66 (m, 8 H).

Example 962

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2-fluoro-4-nitrophenyl)cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-fluoro-4-nitrophenyl)cyclohexanecarboxamide.

Using a similar procedure as described in step B of Example 951, the title compound was obtained.

ESI MS m/e 453 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.08 (brs, 1 H), 7.96 (m, 1 H), 7.83 (d, J = 8.0 Hz, 1 H), 7.56 (t, J = 7.6 Hz, 1 H), 7.44 (d, J = 8.0 Hz, 1 H), 7.20 (m, 1 H), 7.14 (t, J = 7.6 Hz, 1 H), 4.38 (brs, 1 H), 3.40 (s, 6 H), 2.54 (m, 1 H), 2.17 (m, 2 H), 1.97 (m, 4 H), 1.74 (m, 2 H).

Example 963

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-(2-methoxydibenzo[b,d]furan-3-yl)cyclohexanecarboxamide trifluoroacetate

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-methoxy-dibenzo[b,d]furan-3-yl)cyclohexanecarboxamide trifluoroacetate.

Using a similar procedure as described in step B of Example 951, the product was purified by prep HPLC to give the tile compound.

ESI MS m/e 510 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 11.8 (brs, 1 H), 9.19 (s, 1 H), 8.38 (s, 1 H), 8.12 (d, J = 7.6 Hz, 1 H), 8.01 (d, J = 8.0 Hz, 1 H), 8.00 (brs, 1 H), 7.74 (s, 1 H), 7.72 (m, 1 H), 7.57 (d, J = 8.0 Hz, 1 H), 7.38 (t, J = 8.4 Hz, 2 H), 7.29 (m, 2 H), 4.17 (brs, 1 H), 3.92 (s, 3 H), 3.39 (s, 6 H), 2.73 (brs, 1 H), 1.88-1.64 (m, 8 H).

Example 964

(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3,5-dichlorobenzoate

Step A: Synthesis of cis-(4-hydroxymethyl-cyclohexyl)-carbamic acid tert-butyl ester.

To a suspension of cis-4-(tert-butoxycarbonylamino)-cyclohexanecarboxylic acid (15.0 g, 61.7 mmol) in CH_2Cl_2 (140 mL) at -65 °C was added triethylamine (13 mL, 2.7 eq.) and a solution of ethyl chloroformate (6 mL) in CH_2Cl_2 (20 mL). The reaction was stirred for 60 min. at 0 °C, and

acidified (pH = ~ 3) with 1N-HCl. The mixture was extracted with CH_2Cl_2 (2 x 70 mL), and the combined organic layers were washed with sat. aqueous Na_2CO_3 (1 x 60 mL), water (2 x 80 mL), and brine (1 x 80 mL) and dried over $MgSO_4$, filtered, and concentrated to give cis-(4-hydroxymethyl-cyclohexyl)-carbamic acid tert-butyl ester as a colorless oil. To a solution of the crude oil in THF (150 mL) at -65 °C were added $NaBH_4$ (2.7 g, 73 mmol) and MeOH (4.8 mL). The reaction was stirred for 30 min. at -40 °C, and stirred for an additional 3 hr at 0 °C. The reaction was acidified with 1N-HCl, removed a half volume of solvent, and extracted with EtOAc (3 x 100 mL). The combined organic layer was washed with water (3 x 80 mL) and brine (1 x 100 mL), dried with $MgSO_4$, filtered, and concentrated to give the product (11.5 g, 82 %) as a white solid.

ESI MS m/e 230 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 4.69 (brs, 1 H), 3.78 (brs, 1 H), 3.50 (d, J = 6.4 Hz, 2 H), 2.19 (brs, 1 H), 1.70-1.55 (m, 7 H), 1.44 (s, 9 H), 1.25 (m, 2 H).

Step B: Synthesis of cis-(4-amino-cyclohexyl)-methanol hydrochloride.

To a solution of cis-(4-hydroxymethyl-cyclohexyl)-carbamic acid tert-butyl ester (0.5g, 2.1 mmol) in EtOAc (15 mL) was added 4M-HCl (10 mL) at room temperature. The reaction was stirred for 1.5 h at room temperature and concentrated to give a crude compound, which was washed with CH_2Cl_2 (the product was not soluble in CH_2Cl_2) to remove organic impurities to give 0.25 g (89 %) of cis-(4-amino-cyclohexyl)-methanol hydrochloride as a white solid.

ESI MS m/e 130 M + H^+; ^1H NMR (400 MHz, CD_3OD) δ 3.51 (d, J = 7.2 Hz, 2 H), 3.31 (brs, 1 H), 1.81-1.57 (m, 9 H).

Step C: Synthesis of cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-methanol

A vial contains 2-chloro-4-N,N-dimethylamino quinazoline (0.31 g, 1.5 mmol), cis-(4-amino-cyclohexyl)-methanol hydrochloride (0.25 g, 1 eq.), DIEA (0.55 mL), and IPA (2 mL). The vial was heated at 155 °C for 1 h using a Smith microwave synthesizer. The vial contents was diluted with DCM, washed with diluted HCl and water, and concentrated. The residue was purified on silica gel column using CH_2Cl_2 and MeOH (100:0 to 80:20) to give

cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-methanol (0.16 g, 28 %) as a pale yellow solid.

ESI MS m/e 301 M +H$^+$; ^{1}H NMR (400 MHz, $CDCl_3$) δ 8.69 (brs, 1 H), 7.86 (d, J = 8.8 Hz, 1 H), 7.59 (t, J = 8.4 Hz, 1 H), 7.51 (d, J = 8.4 Hz, 1 H), 7.21 (t, J = 8.0 Hz, 1 H), 4.26 (brs, 1 H), 3.57 (s, 2 H), 3.49 (s, 6 H), 1.92 (m, 3 H), 1.65 (m, 6 H).

Step D: Synthesis of (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3,5-dichlorobenzoate

To a solution of cis-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-methanol (25 mg, 0.08 mmol) in DCM (3 mL) was added 3,5-dichlorobenzoyl chloride (17 mg, 0.08 mmol) and followed DIEA (3 drops). The reaction was stirred overnight at room temperature under an inert atmosphere. The reaction was diluted with DCM, washed with 1N-HCl and water, and concentrated. The product was purified by column chromatography (DCM/MeOH = 100:0 to 90:10) to give (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3,5-dichlorobenzoate (15 mg, 38 %).

ESI MS m/e 473 M + H$^+$; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.88 (s, 2 H), 7.80 (d, J = 8.4 Hz, 1 H), 7.51 (m, 2 H), 7.46 (t, J = 8.0 Hz, 1 H), 7.06 (t, J = 7.6 Hz, 1 H), 4.27 (m, 1 H), 4.22 (d, J = 7.2 Hz, 2 H), 3.32 (s, 6 H), 1.92 (m, 3 H), 1.72 (m, 4 H), 1.54 (m, 2 H).

Example 965

(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3-methoxybenzoate

Step A: Synthesis of (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3-methoxybenzoate.

Using a similar procedure as described in step D of Example 964, the title compound was obtained.

ESI MS m/e 435 M + H$^+$; ^{1}H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, J = 8.4 Hz, 1 H), 7.64-7.53 (m, 4

H), 7.30 (t, J = 7.6 Hz, 1 H), 7.11 (t, J = 7.6 Hz, 1 H), 7.06 (d, J = 8.4 Hz, 1 H), 4.26 (brs, 1 H), 4.25 (d, J = 6.8 Hz, 2 H), 3.84 (s, 3 H), 3.39 (s, 6 H), 1.97 (m, 3 H), 1.72 (m, 6 H).

Example 966

(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3-bromobenzoate

Step A: Synthesis of (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3-bromobenzoate.

Using a similar procedure as described in step D of Example 964, the title compound was obtained.

ESI MS m/e 483 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.15 (s, 1 H), 7.96 (d, J = 7.2 Hz, 1 H), 7.80 (d, J = 8.0 Hz, 1 H), 7.65 (d, J = 7.6 Hz, 1 H), 7.50 (s, 2 H), 7.29 (t, J = 7.6 Hz, 1 H), 7.04 (m, 1 H), 4.27 (brs, 1 H), 4.23 (d, J = 6.8 Hz, 2 H), 3.31 (s, 6 H), 1.93 (m, 3 H), 1.72 (m, 4 H), 1.56 (m, 2 H).

Example 967

(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3,4-difluorobenzoate

Step A: Synthesis of (cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl 3,4-difluorobenzoate.

Using a similar procedure as described in step D of Example 964, the title compound was obtained.

ESI MS m/e 441 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.81 (m, 3 H), 7.48 (m, 2 H), 7.22 (m, 1 H), 7.04 (t, J = 7.6 Hz, 1 H), 4.27 (brs, 1 H), 4.21 (d, J = 7.2 Hz, 2 H), 3.31 (s, 6 H), 1.92 (m, 3 H), 1.72 (m, 4 H), 1.55 (m, 2 H).

Example 968

3,4-Dimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate

Step A: Synthesis of 3,4-dimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate.

To a solution of the acid chloride (24 mg, 0.07mmol) in DCM (3 mL) was added 3,4-dimethoxybenzyl alcohol (12 mg, 0.07 mmol) and followed DIEA (3 drops). After stirring overnight at room temperature, the reaction was quenched and purified using column chromatography (silica gel, DCM/MeOH = 100:0 to 90:10) to give 3,4-dimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate (12 mg, 36 %).

ESI MS m/e 465 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.79 (d, J = 8.0 Hz, 1 H), 7.49 (t, J = 7.6 Hz, 1 H), 7.44 (d, J = 7.6 Hz, 1 H), 7.04 (t, J = 7.2 Hz, 1 H), 6.91 (d, J = 8.0 Hz, 1 H), 6.86 (s, 1 H), 6.84 (t, J = 8.0 Hz, 1 H), 5.05 (s, 2 H), 4.11 (brs, 1 H), 3.88 (s, 3 H), 3.87 (s, 3 H), 3.30 (s, 6 H), 2.51 (m, 1 H), 1.97 (m, 2 H), 1.78 (m, 6 H).

Example 969

4-(Trifluoromethoxy)benzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate

Step A: Synthesis of 4-(trifluoromethoxy)benzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate.

Using a similar procedure as described in step A of Example 968, the title compound was obtained.

ESI MS m/e 489 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.84 (d, J = 8.0 Hz, 1 H), 7.57 (t, J = 7.6 Hz, 1 H), 7.49 (d, J = 8.0 Hz, 1 H), 7.39 (d, J = 8.4 Hz, 2 H), 7.20 (d, J = 8.4 Hz, 2 H), 7.16 (brs, 1 H), 5.12 (s, 2 H), 4.08 (brs, 1 H), 3.42 (s, 6 H), 2.52 (m, 1 H), 2.05 (m, 2 H), 1.79 (m, 6 H).

Example 970

3,5-Dimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxylate

Step A: Synthesis of 3,5-dimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxylate.

Using a similar procedure as described in step A of Example 968, the title compound was obtained.

ESI MS m/e 465 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.81 (d, J = 8.4 Hz, 1 H), 7.51 (t, J = 7.6 Hz, 1 H), 7.43 (d, J = 8.0 Hz, 1 H), 7.08 (t, J = 7.6 Hz, 1 H), 6.47 (d, J = 2.4 Hz, 2 H), 6.38 (t, J = 2.4 Hz, 1 H), 5.05 (s, 2 H), 4.11 (brs, 1 H), 3.77 (s, 6 H), 3.36 (s, 6 H), 2.54 (m 1 H), 2.02 (m, 2 H), 1.79 (m, 6 H).

Example 971

3,4,5-Trimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxylate

Step A: Synthesis of 3,4,5-trimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate.

Using a similar procedure as described in step A of Example 968, the title compound was obtained.

ESI MS m/e 495 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.79 (d, J = 8.0 Hz, 1 H), 7.49 (t, J = 7.2 Hz, 1 H), 7.43 (d, J = 7.6 Hz, 1 H), 7.04 (t, J = 7.6 Hz, 1 H), 6.56 (s, 2 H), 5.05 (s, 2 H), 4.11 (brs, 1 H), 3.85 (s, 6 H), 3.83 (s, 3 H), 3.29 (s, 6 H), 2.53 (m 1 H), 2.00 (m, 2 H), 1.79 (m, 6 H).

Example 972

2,3,4-Trimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexane-carboxylate

Step A: Synthesis of 2,3,4-trimethoxybenzyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate.

Using a similar procedure as described in step A of Example 968, the title compound was obtained.

ESI MS m/e 495 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.79 (d, J = 8.0 Hz, 1 H), 7.49 (t, J = 7.6 Hz, 1 H), 7.44 (d, J = 7.6 Hz, 1 H), 7.05 (m, 1 H), 7.02 (d, J = 8.4 Hz, 1 H), 6.45 (d, J = 8.4 Hz, 1 H), 5.09 (s, 2 H), 4.10 (brs, 1 H), 3.90 (s, 3 H), 3.86 (s, 3 H), 3.85 (s, 3 H), 3.30 (s, 6 H), 2.49 (m 1 H), 2.00 (m, 2 H), 1.77 (m, 6 H).

Example 973

1-(2-Naphthyl)ethyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxylate

Step A: Synthesis of 1-(2-naphthyl)ethyl cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexanecarboxylate.

Using a similar procedure as described in step A of Example 968, the title compound was obtained.

ESI MS m/e 469 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 7.85 (m, 5 H), 7.45 (m, 5 H), 7.04 (d, J = 7.6 Hz, 1 H), 6.05 (q, J = 6.4 Hz, 1 H), 4.11 (brs, 1 H), 3.28 (s, 6 H), 2.52 (m 1 H), 2.01 (m, 2 H), 1.78 (m, 6 H), 1.62 (d, J = 6.4 Hz, 3 H).

Example 974

3-[(Cyclopropylcarbonyl)amino]-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)benzamide

Step A: Synthesis of cis-[1-(4-amino-cyclohexyl)-3-nitrobenzamide trifluoroacetate.

To a suspension of cis-(4-amino-cyclohexyl)-carbamic acid tert-butyl ester (1.1 g, 5.2 mmol) in DCM (20 mL) was added 3-nitrobenzoyl chloride (0.96 g, 5.2 mmol) and followed catalytic amount of DIEA (0.1 mL). The reaction was stirred overnight at room temperature, diluted with DCM, washed with 1N-HCl and water, and concentrated. The crude product was preliminary purified by a short pad of silica gel with DCM/MeOH (100:0 to 90:10). The product was contaminated with impurity having a very close rf value with the product. A solution of this crude compound (1.2 g, 3.2 mmol) in DCM/TFA (16 mL = 10/6) was stirred for 2 hr at room temperature. After removal of the volatile solvent, the solid residue was suspended in hexane, filtered, and dried to give 1.0 g (83 %) of cis-N-(4-amino-cyclohexyl)-3-nitrobenzamide trifluoroacetate.

ESI MS m/e 264 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 8.64 (t, J = 2.0 Hz, 1 H), 8.49 (d, J = 4.8 Hz, 1 H), 8.37 (ddd, J = 8.0, 2.0, 0.8 Hz, 1 H), 8.27 (d, J = 8.0 Hz, 1 H), 7.81 (brs, 2 H), 7.75 (t, J = 8.0 Hz, 1 H), 3.90 (m, 1 H), 3.15 (brs, 1 H), 2.51 (m, 1 H), 1.91 (m, 2 H), 1.76-1.64 (m, 6 H).

Step B: Synthesis of

cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-nitrobenzamide.

A suspension of 2-chloro-4-N,N-dimethylamino quinazoline (0.3 g, 1.4 mmol) and cis-N-(4-amino-cyclohexyl)-3-nitrobenzamide trifluoroacetate (0.5 g, 1.35 mmol) in IPA (2.5 mL) and DIEA (0.7 mL) was reacted for 2 hr at 160 °C in a Smith synthesizer. Over 90 % conversion was observed by LC-MS. The reaction was quenched and purified by column chromatography (silica gel, DCM/MeOH = 100:0 to 85:15) to give 0.45 g (80 %) of cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-nitrobenzamide.

ESI MS m/e 435 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.04 (d, J = 7.6 Hz, 1 H), 8.73 (t, J = 2 Hz, 1 H), 8.28 (d, J = 8.4 Hz, 1 H), 8.18 (d, J = 8.0 Hz, 1 H), 7.88 (d, J = 7.2 Hz, 1 H), 7.62 (m, 2 H), 7.49 (d, J = 7.6 Hz, 1 H), 7.25 (m, 1 H), 7.16 (d, J = 8.4 Hz, 1 H), 4.38 (m, 1 H), 4.18 (m, 1 H), 3.51 (s, 6

H), 1.99-1.93 (m, 6 H), 1.78 (m, 2 H).

Step C: Synthesis of 3-amino-cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-benzamide.

A heterogenous solution of cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-nitrobenzamide (0.85 g, 1.9 mmol) and 10 % Pd/C (100 mg) in EtOH (20 mL) was stirred overnight under H_2 at room temperature. LC-MS confirmed 100 % conversion of the stating material. The reaction was filtered through a pad of celite. After removal of the volatile solvent, the residue was purified from a short pad of silica gel (DCM/MeOH = 100:0 to 80:20) to give 0.48 g (62 %) of 3-amino-cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-benzamide as the desired product.

ESI MS m/e 405 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.42 (brs, 1 H), 7.89 (d, J = 8.0 Hz, 1 H), 7.62 (m, 2 H), 7.26-7.17 (m, 4 H), 6.79 (m, 1 H), 6.72 (d, J = 8.4 Hz, 1 H), 4.36 (brs, 1 H), 4.18 (m, 1 H), 3.51 (s, 6 H), 1.94-1.78 (m, 8 H).

Step D: Synthesis of 3-[(cyclopropylcarbonyl)amino]-N-(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)benzamide.

To a solution of 3-amino-cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-benzamide (25 mg, 0.06mmol) in DCM (3 mL) was added cyclopropanecarbonyl chloride (6 mg, 0.06 mmol) and followed DIEA (catalytic, 3 drops). After stirring overnight at room temperature, the reaction was quenched and purified from prep-HPLC [15 to 95% of CH_3CN (5%TFA)/H_2O (5% TFA)] to give 12 mg (33 %) of 3-[(cyclopropylcarbonyl)amino]-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)benzamide.

ESI MS m/e 473 $M + H^+$; ^1H NMR (400 MHz, DMSD-d_6) δ 12.1 (brs, 1 H), 10.2 (s, 1 H), 8.12 (d, J = 8.0 Hz, 2 H), 7.94 (brs, 1 H), 7.93 (s, 1 H), 7.74-7.67 (m, 2 H), 7.42 (d, J = 7.8 Hz, 2 H), 7.31 (m, 2 H), 4.01 (brs, 1 H), 3.83 (brs, 1 H), 3.42 (s, 6 H), 1.83-1.68 (m, 8 H), 1.00 (m, 2 H), 0.93 (m, 2 H).

Example 975

N-[(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-[(2,2-dimethylpropanoyl)amino]benzamide

Step A: Synthesis of {cis-4-[(3-nitro-benzoylamino)-methyl]-cyclohexyl}-carbamic acid tert-butyl ester.

cis-(4-Aminomethyl-cyclohexyl)-carbamic acid tert-butyl ester (1.55 g, 6.8 mmol) and 3-nitrobenzoyl chloride (1.25 g, 6.8 mmol, 1 eq.) was reacted using the procedure of step A of Example 974 to give 1.5 g (75 %) of {cis-4-[(3-nitro-benzoylamino)-methyl]-cyclohexyl}-carbamic acid tert-butyl ester.

ESI MS m/e 378 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.54 (t, J = 2.0 Hz, 1 H), 8.33 (d, J = 8.0 Hz, 1 H), 8.14 (d, J = 8.0 Hz, 1 H), 7.63 (t, J = 7.6 Hz, 1 H), 6.31 (brs, 1 H), 4.62 (brs, 1 H), 3.73 (brs, 1 H), 3.41 (t, J = 6.4 Hz, 2 H), 1.72-1.57 (m, 7 H), 1.44 (s, 9 H), 1.32 (m, 2 H).

Step B: Synthesis of cis-N-(4-amino-cyclohexylmethyl)-3-nitro-benzamide hydrochloride.

{cis-4-[(3-Nitro-benzoylamino)-methyl]-cyclohexyl}-carbamic acid tert-butyl ester (1.4 g, 3.7 mmol) in DCM/TFA (1:1 = 13 mL) was stirred for 2 hr at room temperature. After removal of the volatile solvent, the residue was dissolved in DCM (10 mL), and 2M-HCl in ether (~4 mL, 2 eq.) was added. After stirring for 20 min at room temperature, removal of the volatile solvent gave 1.2 g (82 %) of cis-N-(4-amino-cyclohexylmethyl)-3-nitro-benzamide hydrochloride as the desired product.

ESI MS m/e 278 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 8.91 (t, J = 5.6 Hz, 1 H), 8.65 (m, 1 H), 8.36 (d, J = 2.0 Hz, 1 H), 8.29 (d, J = 8.0 Hz, 1 H), 7.97 (brs, 2 H), 7.74 (t, J = 8.0 Hz, 1 H), 3.25 (t, J = 6.8 Hz, 2 H), 3.13 (brs, 1 H), 1.77 (m, 1 H), 1.65-1.61 (m, 4 H), 1.51 (m, 4 H).

Step C: Synthesis of cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-

cyclohexylmethyl]-3-nitro-benzamide.

A heterogeneous solution of 2-chloro-4-N,N-dimethylamino quinazoline (0.3 g, 1.45 mmol) and cis-N-(4-amino-cyclohexylmethyl)-3-nitro-benzamide hydrochloride (0.45 g, 1 eq.) in IPA (2 mL) and DIEA (0.46 mL, 2 eq.) was irradiated for 1h 10 min. at 155 °C with a Smith microwave reactor. The reaction was quenched and purified by column chromatography (silica gel, DCM/MeOH = 100:0 to 85:15). 0.57 g (87 %) of the product was obtained.

ESI MS m/e 449 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.91 (brs, 1 H), 8.76 (s, 1 H), 8.45 (d, J = 7.6 Hz, 1 H), 8.25 (d, J = 8.4 Hz, 1 H), 7.86 (d, J = 8.4 Hz, 1 H), 7.60 (m, 2 H), 7.51 (brs, 1 H), 7.42 (d, J = 8.4 Hz, 1 H), 7.21 (t, J = 8.0 Hz, 1 H), 4.35 (brs, 1 H), 3.51 (brs, 2 H), 3.49 (s, 6 H), 1.94-1.80 (m, 5 H), 1.67-1.62 (m, 4 H).

Step D: Synthesis of

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-[(2,2-dimethylpropanoyl)amino]benzamide

A heterogenous solution of cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-3-nitro-benzamide (0.57 g, 1.27 mmol) and 10 %-Pd/C (100 mg) in EtOH (25 mL) was stirred overnight under H_2. The reaction was filtered through a pad of celite. After removal of the volatile solvent, the residue was purified from a short pad of silica gel (DCM/MeOH = 100:0 to 80:20) to give 3-amino-cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-benzamide (0.45 g, 83 %, ESI MS m/e 419 $M + H^+$).

3-Amino-cis-N-[4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexylmethyl]-benzamide(30 mg, 0.07 mmol) and 2,2-dimethylpropionyl chloride (9 mmol, 0.07 mmol) was reacted in the presence of catalytic DIEA (4 drops). The product was purified from column chromatography (silica gel, DCM/MeOH = 100:0 to 90:10) to give

N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl) methyl]-3-[(2,2-dimethylpropanoyl)amino]benzamide (12 mg, 33 %).

ESI MS m/e 503 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.92 (brs, 1 H), 8.86 (s, 1 H), 8.35 (s, 1 H),

8.33 (brs, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.61 (m, 2 H), 7.32 (t, J = 8.0 Hz, 2 H), 7.22 (t, J = 7.2 Hz, 1 H), 6.74 (t, J = 4.8 Hz, 1 H), 4.34 (m, 1 H), 3.51 (m, 2 H), 3.48 (s, 6 H), 1.97 (m, 2 H), 1.86-1.78 (m, 3 H), 1.69-1.59 (m, 4 H), 1.44 (s, 9 H).

Example 976

N-[(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-(propionylamino)benzamide

Step A: Synthesis of N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-(propionylamino)benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 475 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.59 (brs, 1 H), 8.53 (brs, 1 H), 8.39 (brs, 1 H), 8.05 (s, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.63 (t, J = 7.6 Hz, 1 H), 7.58 (d, J = 7.6 Hz, 1 H), 7.37 (m, 2 H), 7.23 (m, 1 H), 6.44 (brs, 1 H), 4.33 (bm, 1 H), 3.54 (d, J = 5.2 Hz, 2 H), 3.48 (s, 6 H), 2.59 (q, J = 7.6 Hz, 2 H), 2.05 (m, 2 H), 1.76-1.61 (m, 7 H), 1.31 (t, J = 7.6 Hz, 3 H).

Example 977

N-[(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-(isobutyrylamino)benzamide

Step A: Synthesis of N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-(isobutyrylamino)benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 489 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 9.59 (brs, 1 H), 8.50 (brs, 1 H), 8.40 (brs, 1 H), 8.17 (s, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.56 (d, J = 7.6 Hz, 1 H), 7.35 (m, 2 H), 7.23 (m, 1 H), 6.54 (brs, 1 H), 4.32 (m, 1 H), 3.51 (d, J = 5.6 Hz, 2 H), 3.48 (s, 6 H), 2.88 (m, 1 H), 2.03 (m, 2 H), 1.76-1.62 (m, 7 H), 1.32 (d, J = 7.6 Hz, 6 H).

Example 978

N-[(cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-[(3-methylbutanoyl)amino]benzamide

Step A: Synthesis of N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-3-[(3-methylbutanoyl)amino]benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 503 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 9.71 (brs, 1 H), 8.60 (d, J = 7.2 Hz, 1 H), 8.43 (d, J = 8.4 Hz, 1 H), 8.15 (s, 1 H), 7.88 (d, J = 8.4 Hz, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.56 (d, J = 7.6 Hz, 1 H), 7.35 (m, 2 H), 7.23 (m, 1 H), 6.57 (brs, 1 H), 4.32 (m, 1 H), 3.49 (s, 8 H), 2.44 (d, J = 7.2 Hz, 2 H), 2.33 (m, 1 H), 2.02 (m, 2 H), 1.77-1.62 (m, 7 H), 1.07 (d, J = 7.6 Hz, 6 H).

Example 979

3-[(Cyclopropylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide

Step A: Synthesis of 3-[(cyclopropylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)-

quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 487 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 10.1 (brs, 1 H), 8.60 (brs, 1 H), 8.34 (d, J = 8.4 Hz, 1 H), 8.09 (s, 1 H), 7.86 (d, J = 8.4 Hz, 1 H), 7.60 (t, J = 7.6 Hz, 1 H), 7.54 (d, J = 8.0 Hz, 1 H), 7.41 (d, J = 8.4 Hz, 1 H), 7.29 (t, J = 8.0 Hz, 1 H), 7.23 (m, 1 H), 6.61 (brs, 1 H), 4.28 (m, 1 H), 3.51 (d, J = 6.0 Hz, 2 H), 3.48 (s, 6 H), 2.08 (m, 3 H), 1.78-1.61 (m, 7 H), 1.09 (m, 2 H), 0.87 (m, 2 H).

Example 980

3-[(Cyclobutylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide

Step A: Synthesis of 3-[(cyclobutylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 501 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.45 (brs, 1 H), 8.68 (brs, 1 H), 8.41 (d, J = 7.2 Hz, 1 H), 8.13 (s, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.63 (t, J = 7.6 Hz, 1 H), 7.56 (d, J = 7.6 Hz, 1 H), 7.40 (d, J = 7.6 Hz, 1 H), 7.32 (t, J = 7.6 Hz, 1 H), 7.23 (m, 1 H), 6.50 (brs, 1 H), 4.32 (m, 1 H), 3.51 (d, J = 5.6 Hz, 2 H), 3.49 (s, 6 H), 2.48 (m, 2 H), 2.31 (m, 2 H), 2.06-1.59 (m, 12 H).

Example 981

3-[(Cyclopentylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide

Step A: Synthesis of 3-[(cyclopentylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 515 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.60 (brs, 1 H), 8.56 (brs, 1 H), 8.40 (d, J = 5.6 Hz, 1 H), 8.17 (s, 1 H), 7.87 (d, J = 8.4 Hz, 1 H), 7.61 (t, J = 7.6 Hz, 1 H), 7.56 (d, J = 7.6 Hz, 1 H), 7.37 (d, J = 7.6 Hz, 1 H), 7.33 (t, J = 7.6 Hz, 1 H), 7.23 (m, 1 H), 6.50 (brs, 1 H), 4.32 (m, 1 H), 3.52 (d, J = 5.2 Hz, 2 H), 3.48 (s, 6 H), 3.05 (m, 1 H), 2.06-1.60 (m, 17 H).

Example 982

3-[(Cyclohexylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide

Step A: Synthesis of 3-[(cyclohexylcarbonyl)amino]-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]benzamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 529 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.53 (brs, 1 H), 8.61 (brs, 1 H), 8.40 (d, J = 6.8 Hz, 1 H), 8.20 (s, 1 H), 7.87 (d, J = 7.6 Hz, 1 H), 7.60 (t, J = 7.6 Hz, 1 H), 7.56 (d, J = 7.6 Hz, 1 H), 7.34 (m, 2 H), 7.23 (m, 1 H), 6.49 (brs, 1 H), 4.33 (m, 1 H), 3.53 (d, J = 4.0 Hz, 2 H), 3.49 (s, 6 H), 2.59 (m, 1 H), 2.06-1.60 (m, 19 H).

Example 983

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-{3-[(2,2-dimethylpropanoyl)amino]-

benzyl}cyclohexanecarboxamide

Step A: Synthesis of cis-[-4-(3-nitrobenzylcarbamoyl)-cyclohexyl]-carbamic acid tert-butyl ester.

cis-4-(tert-Butoxycarbonylamino)-cyclohexanecarboxylic acid (2.0 g, 8.2 mmol) and 3-nitrobenzyl amine hydrochloride (1.54 g, 8.2 mmol, 1eq) in DCM (30 mL) was reacted in the presence of HATU (3.5 g, 9.02 mmol, 1.1 eq.) and Et_3N (~4 mL). The reaction was diluted with DCM, washed with 1N-HCl and water, dried over $MgSO_4$, and concentrated. From column chromatography (silica gel, DCM/MeOH = 100:0 to 95 to 5), 2.7 g (90 %) of cis-[-4-(3-nitrobenzylcarbamoyl)-cyclohexyl]-carbamic acid tert-butyl ester was isolated.

ESI MS m/e 378 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.11 (brs, 1 H), 8.09 (s, 1 H), 7.60 (d, J = 8.0 Hz, 1 H), 7.48 (t, J = 7.6 Hz, 1 H), 6.17 (brs, 1 H), 4.72 (brs, 1 H), 4.53 (d, J = 6.0 Hz, 2 H), 3.74 (brs, 1 H), 2.27 (m, 1 H), 1.80-1.71 (m, 6 H), 1.65-1.59 (m, 2 H), 1.45 (s, 9 H).

Step B: Synthesis of cis-4-amino-cyclohexanecarboxylic acid 3-nitro-benzamide hydrochloride.

cis-[4-(3-Nitrobenzylcarbamoyl)-cyclohexyl]-carbamic acid tert-butyl ester (2.5 g, 6.6 mmol) was reacted in TFA/DCM (1:2 = 23 mL) for 2 hr at room temperature. After removal of the solvents, the residue was dissolved in DCM (15 mL), and added 2M-HCl in ethyl ether (2 eq.). After stirring for 20 min at room temperature, the volatile solvent was removed to give cis-4-amino-cyclohexanecarboxylic acid 3-nitro-benzamide hydrochloride (2.0 g, 95 %) as a yellowish white solid.

ESI MS m/e 278 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 8.53 (t, J = 6.0 Hz, 1 H), 8.07 (d, J = 7.6 Hz, 1 H), 8.06 (s, 1 H), 7.84 (brs, 2 H), 7.68 (d, J = 7.6 Hz, 1 H), 7.59 (t, J = 7.6 Hz, 1 H), 4.37 (d, J = 6.4 Hz, 2 H), 3.13 (m, 1 H), 2.40 (m, 1 H), 1.89 (m, 2 H), 1.68 (m, 4 H), 1.57 (m, 2 H).

Step C: Synthesis of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid 3-nitro-benzamide.

A solution of 2-chloro-4-N,N-dimethylamino quinazoline (0.35 g, 1.7 mmol) and cis-4-amino-cyclohexanecarboxylic acid 3-nitro-benzamide hydrochloride (0.5 g, 1 eq.) in IPA (2.5 mL) and DIEA (0.7 mL) was reacted for 1 h 10 min at 155 °C in a Smith synthesizer. The reaction was quenched and purified by column chromatography (silica gel, DCM/MeOH = 100:0 to 85:15). 0.56 g (75 %) of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid 3-nitro-benzamide was isolated.

ESI MS m/e 449 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 9.12 (brs, 1 H), 8.24 (brs, 1 H), 8.15 (s, 1 H), 8.03 (d, J = 8.0 Hz, 1 H), 7.88 (d, J = 8.0 Hz, 1 H), 7.69 (d, J = 8.0 Hz, 1 H), 7.62 (t, J = 8.0 Hz, 1 H), 7.44 (m, 2 H), 7.24 (t, J = 7.6 Hz, 1 H), 4.54 (d, J = 6.4 Hz, 2 H), 4.48 (m, 1 H), 3.50 (s, 6 H), 2.43 (tt, J = 12.4, 4.0 Hz, 1 H), 2.16 (m, 2 H), 1.90 (m, 4 H), 1.63 (m, 2 H).

Step D: Synthesis of cis-4(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid 3-aminobenzyl amide.

A heterogenous solution of cis-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexanecarboxylic acid 3-nitro-benzamide (0.55 g, 1.22 mmol) and 10 % Pd/C (100 mg) in EtOH (15 mL) was stirred overnight under H_2 atmosphere at room temperature. The reaction was filtered through a pad of celite. After removal of the volatile solvent, the residue was purified from a short pad of silica gel (DCM/MeOH = 100:0 to 80:20) to give 0.46 g (91 %) of cis-4(4-dimethylamino-quinazolin-2-ylamino)-cyclohexane carboxylic acid 3-aminobenzyl amide.

ESI MS m/e 419 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 9.00 (brs, 1 H), 7.86 (d, J = 8.4 Hz, 1 H), 7.59 (t, J = 8.0 Hz, 1 H), 7.45 (d, J = 8.4 Hz, 1 H), 7.37 (brs, 1 H), 7.22 (t, J = 7.6 Hz, 1 H), 7.01 (t, J = 7.6 Hz, 1 H), 6.73 (s, 1 H), 6.66 (d, J = 7.6 Hz, 1 H), 6.49 (d, J = 7.6 Hz, 1 H), 4.39 (m, 1 H), 4.35 (d, J = 6.0 Hz, 2 H), 3.80 (brs, 2 H), 3.47 (s, 6 H), 2.36 (m, 1 H), 2.05 (m, 2 H), 1.88 (m, 4 H), 1.63 (m, 2 H).

Step E: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-{3-[(2,2-dimethyl-propanoyl)amino]benzyl}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 503 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.05 (brs, 1 H), 8.13 (brs, 1 H), 7.89 (brs, 1 H), 7.87 (d, J = 8.0 Hz, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.49 (s, 1 H), 7.38 (d, J = 8.4 Hz, 1 H), 7.22 (t, J = 8.0 Hz, 2 H), 7.01 (brs, 1 H), 7.00 (d, J = 7.2 Hz, 1 H), 4.43 (d, J = 5.6 Hz, 2 H), 4.39 (m, 1 H), 3.48 (s, 6 H), 2.37 (tt, J = 12.0, 3.6 Hz, 1 H), 2.07 (m, 2 H), 1.97 (m, 4 H), 1.63 (m, 2 H), 1.36 (s, 9 H).

Example 984

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[3-(propionylamino)benzyl]cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(propionylamino) benzyl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 475 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.96 (m, 2 H), 8.04 (d, J = 8.4 Hz, 1 H), 7.88 (d, J = 8.0 Hz, 1 H), 7.64 (t, J = 7.6 Hz, 1 H), 7.41 (d, J = 8.4 Hz, 1 H), 7.37 (s, 1 H), 7.27-7.18 (m, 2 H), 6.91 (d, J = 7.6 Hz, 1 H), 6.70 (brs, 1 H), 4.45 (d, J = 5.6 Hz, 2 H), 4.39 (m, 1 H), 3.50 (s, 6 H), 2.53 (q, J = 7.6 Hz, 2 H), 2.37 (m, 1 H), 2.04~1.94 (m, 6 H), 1.66 (m, 2 H), 1.25 (t, J = 7.6 Hz, 3 H).

Example 985

cis-4-{[4-(Dimethylamino)quinazolin-2-yl]amino}-N-[3-(isobutyrylamino)benzyl]cyclohexane-carboxamide

Step A: Synthesis of cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-

(isobutyrylamino) benzyl]cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 489 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 8.91 (brs, 2 H), 8.04 (d, J = 7.2 Hz, 1 H), 7.88 (d, J = 7.6 Hz, 1 H), 7.64 (t, J = 7.6 Hz, 1 H), 7.42 (s, 1 H), 7.40 (d, J = 8.0 Hz, 1 H), 7.27-7.18 (m, 2 H), 6.92 (d, J = 8.0 Hz, 1 H), 6.70 (brs, 1 H), 4.44 (d, J = 5.6 Hz, 2 H), 4.39 (m, 1 H), 3.49 (s, 6 H), 2.80 (m, 1 H), 2.37 (m, 1 H), 2.05-1.94 (m, 6 H), 1.66 (m, 2 H), 1.26 (d, J = 6.4 Hz, 6 H).

Example 986

cis-N-{3-[(Cyclopropylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)quinazolin-2-yl]amino} cyclohexanecarboxamide

Step A: Synthesis of cis-N-{3-[(cyclopropylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 487 $M + H^+$; ^1H NMR (400 MHz, $CDCl_3$) δ 9.24 (brs, 1 H), 9.00 (brs, 1 H), 7.99 (d, J = 8.0 Hz, 1 H), 7.88 (d, J = 8.0 Hz, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.40 (d, J = 8.0 Hz, 1 H), 7.36 (s, 1 H), 7.27-7.15 (m, 2 H), 6.90 (d, J = 6.8 Hz, 1 H), 6.81 (brs, 1 H), 4.45 (d, J = 5.6 Hz, 2 H), 4.40 (m, 1 H), 3.49 (s, 6 H), 2.37 (m, 1 H), 2.08-1.94 (m, 7 H), 1.66 (m, 2 H), 1.03 (m, 2 H), 0.80 (m, 2 H).

Example 987

cis-N-{3-[(Cyclopentylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-{3-[(cyclopentylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)-

quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 515 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 8.88 (brs, 1 H), 8.87 (brs, 1 H), 8.02 (d, J = 7.2 Hz, 1 H), 7.88 (d, J = 8.4 Hz, 1 H), 7.63 (t, J = 7.6 Hz, 1 H), 7.40 (s, 1 H), 7.39 (d, J = 8.0 Hz, 1 H), 7.27-7.17 (m, 2 H), 6.92 (d, J = 7.6 Hz, 1 H), 6.74 (brs, 1 H), 4.44 (d, J = 6.0 Hz, 2 H), 4.40 (m, 1 H), 3.49 (s, 6 H), 2.95 (m, 1 H), 2.37 (m, 1 H), 2.04~1.65 (m, 16 H).

Example 988

cis-N-{3-[(Cyclohexylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide

Step A: Synthesis of cis-N-{3-[(cyclohexylcarbonyl)amino]benzyl}-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexanecarboxamide.

Using a similar procedure as described in step D of Example 975, the title compound was obtained.

ESI MS m/e 515 M + H^+; ^1H NMR (400 MHz, $CDCl_3$) δ 9.06 (brs, 1 H), 8.66 (brs, 1 H), 8.02 (d, J = 6.8 Hz, 1 H), 7.88 (d, J = 8.0 Hz, 1 H), 7.62 (t, J = 7.6 Hz, 1 H), 7.41 (d, J = 8.4 Hz, 1 H), 7.40 (s, 1 H), 7.26-7.18 (m, 2 H), 6.93 (d, J = 8.0 Hz, 1 H), 6.81 (brs, 1 H), 4.45 (d, J = 5.6 Hz, 2 H), 4.41 (brs, 1 H), 3.49 (s, 6 H), 2.48 (m, 1 H), 2.37 (m, 1 H), 2.09-1.25 (m, 18 H).

Example 989

3-Chloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-benzamide

Step A: Synthesis of [cis-4-(4-dimethylamino-6,7-difluoro-quinazolin-2-yamino)-

cyclohexyl] carbamic acid tert-butyl ester.

A suspended solution of 2-chloro-6,7-difluoro-4-dimethylamino quinazoline (0.52 g, 2.1 mmol) and cis-(4-amino-cyclohexyl)-carbamic acid tert-butyl ester (0.45 g, 1eq.) in IPA (2.5 mL) and DIEA (1 mL, ~2eq.) was reacted for 2 hr 30 min at 155 °C in a Smith microwave synthesizer. The reaction was quenched and purified by column chromatography (DCM:MeOH = 100:0 to 90:10) to give 0.28 g (33 %) of [cis-4-(4-dimethylamino-6,7-difluoro-quinazolin-2-yamino)-cyclohexyl] carbamic acid tert-butyl ester.

ESI MS m/e 422 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 8.10 (brs, 1 H), 7.40 (brs, 1H), 6.80 (brs, 1 H), 4.02 (q, J = 7.0 Hz, 1 H), 3.82 (brs, 1 H), 3.30 (s, 6 H), 1.65-1.50 (m, 8 H), 1.30 (s, 9 H).

Step B: Synthesis of cis-4-(4-dimethylamino-6,7-difluoro-quinazolin-2-yamino)-4-aminocyclohexane trifluoroacetate.

A solution of [cis-4-(4-dimethylamino-6,7-difluoro-quinazolin-2-yamino)-cyclohexyl] carbamic acid tert-butyl ester (0.28g, 0.66 mmol) in TFA/DCM (1:2 = 16 mL) was stirred at room temperature for 1.5 hr. After removal of the volatile solvent, the crude product (0.27 g, 95 %) was directly used to next reaction without a further purification.

ESI MS m/e 322 $M + H^+$.

Step C: Synthesis of

3-chloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)benzamide.

cis-4-(4-Dimethylamino-6,7-difluoro-quinazolin-2-yamino)-4-amino cyclohexane trifluoroacetate (25 mg, 0.06 mmol) and 3-chlorobenzoyl chloride (10 mg, 0.06 mmol) was stirred overnight at room temperature in the presence of a catalytic amount of DIEA (3 drops). The compounds were purified from prep-HPLC to give 3-chloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)benzamide (9 mg, 27 %).

ESI MS m/e 460 $M + H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 12.06 (brs, 1 H), 8.29 (brs, 1 H), 8.23

(m, 1 H), 8.04 (brs, 1 H), 7.83 (s, 1 H), 7.74 (d, J = 8.0 Hz, 1 H), 7.54 (d, J = 8.0 Hz, 1 H), 7.20 (brs, 1 H), 7.44 (t, J = 8.0 Hz, 1 H), 3.98 (brs, 1 H), 3.83 (brs, 1 H), 3.36 (s, 6 H), 1.82 (brs, 2 H), 1.68 (brs, 6 H).

Example 990

3,4-Dichloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-benzamide

Step A: Synthesis of 3,4-dichloro-N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]-amino}cyclohexyl)benzamide.

Using a similar procedure as described in step C of Example 989, the title compound was obtained.

ESI MS m/e 496 $M+H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 12.6 (brs, 1 H), 8.36 (brs, 1 H), 8.28 (brs, 1 H), 8.20 (m, 1 H), 8.03 (d, J = 2.0 Hz, 1 H), 7.77 (dd, J = 8.0, 2.0 Hz, 1 H), 7.69 (d, J = 8.0 Hz, 1 H), 7.45 (brs, 1 H), 3.98 (brs, 1 H), 3.83 (brs, 1 H), 3.41 (s, 6 H), 1.83 (brs, 2 H), 1.68 (brs, 6 H).

Example 991

N-(cis-4-{[4-(Dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3,5-dimethoxybenzamide trifluoroacetate

Step A: Synthesis of N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-cyclohexyl)-3,5-dimethoxybenzamide trifluoroacetate.

Using a similar procedure as described in step C of Example 989, the title compound was obtained.

ESI MS m/e 486 $M+H^+$; ^1H NMR (400 MHz, DMSO-d_6) δ 12.1 (brs, 1 H), 8.20 (m, 1 H), 8.09 (brs, 2H), 7.50 (m, 1 H), 6.92 (d, J = 2.0 Hz, 2 H), 6.58 (t, J = 2.0 Hz, 1 H), 4.00 (brs, 1 H), 3.80 (brs, 1

H), 3.72 (s, 6 H), 3.37 (s, 6 H), 1.82 (brs, 2 H), 1.67 (brs, 6 H).

Examples 992-1008

Compounds 992 to 1008 were prepared in a similar manner as described in Example 890 using the appropriate benzylamine and the carboxylic acid intermediate from Step E.

Examples 1009-1014

Compounds 1009 to 1014 were prepared in a similar manner as described in Example 893 using the appropriate isocyanate (i.e., Compound 1009 to 1013) or thioisocyanate (i.e., Compound 1014) and the amine intermediate from Step D.

Examples 1015-1029

Compounds 1015 to 1029 were prepared in a similar manner as described in Example 894 using the appropriate isocyanate and the amine intermediate from Step E.

Examples 1030-1043

Compounds 1030 to 1043 were prepared in a similar manner as described in Example 896 using the appropriate phenol and the nicotinamide intermediate from Step A.

Examples 1044-1049

Compounds 1044 to 1049 were prepared in a similar manner as described in Example 902 using the appropriate benzaldehyde and the amine intermediate from Step C.

Examples 1050-1072

Compounds 1050 to 1072 were prepared in a similar manner as described in Example 903 using the appropriate phenol and the nicotinamide intermediate from Step A.

Examples 1073 and 1074

Compounds 1073 and 1074 were prepared in a similar manner as described in Example 905 using the appropriate phenol and the nicotinamide intermediate from Step A.

Examples 1075-1084

Compounds 1075 to 1084 were prepared in a similar manner as described in Example 907 using the appropriate phenoxyacetic acid and the amine intermediate from the Example in 895 Step B.

Examples 1085-1091

Compounds 1085 to 1091 were prepared in a similar manner as described in Example 912 using the appropriate aniline and the bromoacetamide.

Examples 1092-1104

Compounds 1092 to 1104 were prepared in a similar manner as described in Example 913 using the appropriate carboxylic acid and the amine intermediate from Step C.

Examples 1105-1115

Compounds 1105 to 1115 were prepared in a similar manner as described in Example 914 using the appropriate carboxylic acid and the amine intermediate from the Example in 895 Step B.

Examples 1116-1119

Compounds 1116 to 1119 were prepared in a similar manner as described in Example 915 using the appropriate benzylamine and the carboxylic acid intermediate from Step D.

Examples 1120-1130

Compounds 1120 to 1130 were prepared in a similar manner as described in Example 917 using the appropriate acid chloride and the amine intermediate from Step D.

Example 1131

Compound 1131 was prepared in a similar manner as described in Example 918 using 3,5-dichlorobenzaldehyde.

Examples 1132 and 1133

Compounds 1132 and 1133 were prepared in a similar manner as described in Example 919 using the appropriate acid chloride and the amine intermediate from Step A.

Example 1134

Compound 1134 was prepared in a similar manner as described in Example 920 using the appropriate benzaldehyde and the amine intermediate from Example 919 Step A.

Examples 1135-1195

Compounds 1135 to 1195 were prepared in a similar manner as described in Example 921 using the appropriate arylamine and the carboxylic acid intermediate from Step C.

Examples 1196-1199

Compounds 1196 to 1199 were prepared in a similar manner as described in Example 951 using the appropriate arylamine and the acid chloride intermediate from Step A.

Examples 1200-1204

Compounds 1200 to 1204 were prepared in a similar manner as described in Example 974 using the appropriate acid chloride and aniline intermediate from Step C.

Examples 1205-1211

Compounds 1205 to 1211 were prepared in a similar manner as described in Example 989 using the appropriate acid chloride and amine intermediate from Step B.

Ex. No	compound name	MS	class
992	cis-N-benzyl-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	440.5	2
993	cis-N-(3,5-dimethoxybenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	500.4	2
994	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(4-methoxybenzyl)cyclohexanecarboxamide	470.4	1
995	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(3-methoxybenzyl)cyclohexanecarboxamide	470.3	2
996	cis-N-[(6-chloropyridin-3-yl)methyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	475.3	2
997	cis-N-(2,4-difluorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	476.3	3
998	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[3-(trifluoromethyl)benzyl]cyclohexanecarboxamide	508.5	1
999	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[4-(trifluoromethyl)benzyl]cyclohexanecarboxamide	508.4	2
1000	cis-N-(2,4-dichlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	508	1
1001	cis-N-(3,5-dichlorobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	508	1
1002	cis-N-(4-bromobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	518.2	1
1003	cis-N-(2-bromobenzyl)-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	518.2	1
1004	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[4-(trifluoromethoxy)benzyl]cyclohexanecarboxamide	524.6	1
1005	cis-N-[3,5-bis(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	576.2	3
1006	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-(3-iodobenzyl)cyclohexanecarboxamide	566.2	2
1007	cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}-N-[(1S)-1-(4-methylphenyl)ethyl]cyclohexanecarboxamide	468.4	1
1008	cis-N-[1-(4-bromophenyl)ethyl]-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexanecarboxamide	532.2	2
1009	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N'-[3-(trifluoromethoxy)phenyl]urea	489.4	1
1010	N-(3,4-dimethoxyphenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	465.2	1
1011	N-(2-chlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	439.4	2
1012	N-(2,6-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473.4	3
1013	N-(2,3-dichlorophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)urea	473.4	3
1014	N-(2-bromophenyl)-N'-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)thiourea	499.4	2

Ex. No.	compound name	MS	class
1015	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-methoxyphenyl)urea	449.4	2
1016	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(2-ethoxyphenyl)urea	463.4	2
1017	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-N'-(3-methoxyphenyl)urea	449.4	2
1018	N-(3,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479.4	3
1019	N-(2,4-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479.4	2
1020	N-(2,5-dimethoxyphenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	479.4	2
1021	N-(2-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453.4	2
1022	N-(3-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453.4	2
1023	N-(4-chlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	453.4	2
1024	N-(3,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	1
1025	N-(2,6-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	1
1026	N-(3,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	2
1027	N-(2,5-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	2
1028	N-(2,3-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	1
1029	N-(2,4-dichlorophenyl)-N'-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]urea	487.4	2
1030	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-fluorophenoxy)nicotinamide	501.30	1
1031	2-(2-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	517.40	1
1032	2-(2-bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	561.30	1
1033	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-[2-(trifluoromethoxy)phenoxy]nicotinamide	567.40	1
1034	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-fluorophenoxy)nicotinamide	501.50	1
1035	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-methoxyphenoxy)nicotinamide	513.40	1
1036	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-[3-(trifluoromethoxy)phenoxy]nicotinamide	567.50	1
1037	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-[4-(trifluoromethoxy)phenoxy]nicotinamide	567.40	1

Ex. No.	compound name	MS	class
1038	2-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	519.60	1
1039	2-(3,5-dimethoxyphenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	543.20	1
1040	2-(2,3-dimethoxyphenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	543.20	1
1041	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3,4,5-trimethoxyphenoxy)nicotinamide	573.50	1
1042	2-(4-chloro-3-fluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	535.10	1
1043	2-(3-chloro-4-fluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	535.40	1
1044	N2-{(1S,3R)-3-[(2,4-dimethoxybenzyl)amino]cyclopentyl}-N4,N4-dimethylquinazoline-2,4-diamine	422	3
1045	N4,N4-dimethyl-N2-((1S,3R)-3-{[3-(trifluoromethyl)benzyl]-amino}cyclopentyl)quinazoline-2,4-diamine	430	
1046	N2-((1S,3R)-3-{[2-fluoro-5-(trifluoromethyl)benzyl]amino}-cyclopentyl)-N4,N4-dimethylquinazoline-2,4-diamine	448	
1047	N4,N4-dimethyl-N2-((1S,3R)-3-{[4-(trifluoromethoxy)benzyl]-amino}cyclopentyl)quinazoline-2,4-diamine	446	3
1048	N2-((1S,3R)-3-{[4-bromo-2-(trifluoromethoxy)benzyl]-amino}cyclopentyl)-N4,N4-dimethylquinazoline-2,4-diamine	524	3
1049	N2-{(1S,3R)-3-[(3,4-difluorobenzyl)amino]cyclopentyl}-N4,N4-dimethylquinazoline-2,4-diamine	398	3
1050	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(2-fluorophenoxy)nicotinamide	501	1
1051	6-(2-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	517	3
1052	6-(2-bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	561	3
1053	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(2-methylphenoxy)nicotinamide	498	
1054	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(2-methoxyphenoxy)nicotinamide	513	1
1055	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(3-methylphenoxy)nicotinamide	498	1
1056	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(3-methoxyphenoxy)nicotinamide	513	1
1057	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-[3-(trifluoromethyl)phenoxy]nicotinamide	551	1
1058	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-[3-(trifluoromethoxy)phenoxy]nicotinamide	568	
1059	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(4-fluorophenoxy)nicotinamide	501	3
1060	6-(4-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	518	1

Ex. No.	compound name	MS	class
1061	6-(4-bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	561	3
1062	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-[4-(trifluoromethoxy)phenoxy]nicotinamide	567	3
1063	6-(3,5-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	519	3
1064	6-(2,3-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	519	1
1065	6-(3,4-difluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	519	1
1066	6-(2,3-dimethoxyphenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	543	1
1067	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-6-(3,4,5-trimethoxyphenoxy)nicotinamide	574	2
1068	6-(4-chloro-2-methoxyphenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	548	2
1069	6-(4-chloro-3-fluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	535	1
1070	6-(3-chloro-4-fluorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	535	2
1071	6-(3,5-dimethoxyphenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	543	2
1072	6-(3-bromophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)nicotinamide	561	3
1073	2-(3-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)isonicotinamide	517	2
1074	2-(4-chlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)isonicotinamide	517	1
1075	2-(3,4-dichlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)acetamide	488.2	1
1076	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3,4-dimethylphenoxy)acetamide	448.4	3
1077	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2,4,5-trichlorophenoxy)acetamide	524.2	2
1078	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-fluorophenoxy)acetamide	438.2	1
1079	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-methylphenoxy)acetamide	434.2	1
1080	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(4-methoxyphenoxy)acetamide	450.2	1
1081	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(3-methoxyphenoxy)acetamide	450.2	1
1082	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-(2-methoxyphenoxy)acetamide	450.2	2
1083	2-(2,4-dichlorophenoxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)acetamide	488.2	2

Ex. No	compound name	MS	class
1084	4-(benzyloxy)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)benzamide	496.5	3
1085	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-phenylglycinamide	419.4	1
1086	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-(3-methylphenyl)glycinamide	433.4	1
1087	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-(3-fluorophenyl)glycinamide	437.4	1
1088	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-methyl-N2-phenylglycinamide	433.4	1
1089	N2-(4-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)glycinamide	453.2	1
1090	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-(3-methoxyphenyl)glycinamide	449.2	1
1091	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-N2-(4-fluorophenyl)glycinamide	437.2	1
1092	2-(2,6-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	470	3
1093	2-(2,3-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	470	3
1094	2-(2,5-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	470	3
1095	2-(3,4-difluorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	470	3
1096	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)-methyl]-2-hydroxy-2-(4-methoxyphenyl)acetamide	464	2
1097	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)-methyl]-2-hydroxy-2-(3-methoxyphenyl)acetamide	464	
1098	2-(4-bromophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	512	3
1099	2-(4-chlorophenyl)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	468	3
1100	(2S)-2-(3-chlorophenyl)-N-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	468	2
1101	(2R)-2-(2-chlorophenyl)-N-[(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxyacetamide	468	2
1102	(2R)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxy-2-phenylacetamide	434	3
1103	(2S)-N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)methyl]-2-hydroxy-2-phenylacetamide	434	3
1104	N-[(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclohexyl)-methyl]-2-hydroxy-2-[3-(trifluoromethyl)phenyl]-acetamide	502	2
1105	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxy-2-(4-methoxyphenyl)acetamide	450.00	1
1106	2-(4-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	454.20	2

Ex. No.	compound name	MS	class
1107	2-(4-bromophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	498.40	2
1108	2-(3,4-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	456.20	2
1109	2-(2,3-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	456.20	3
1110	2-(2,6-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	456.20	3
1111	(2R)-2-(3-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)-quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	454.20	1
1112	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxy-2-[3-(trifluoromethyl)phenyl]acetamide	488.20	1
1113	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxy-2-(3-methoxyphenyl)acetamide	450.20	1
1114	(2S)-2-(2-chlorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	454.50	1
1115	2-(2,5-difluorophenyl)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-2-hydroxyacetamide	456.30	2
1116	cis-4-[(4-isopropylquinazolin-2-yl)amino]-N-(3-methoxybenzyl)cyclohexanecarboxamide	433.3	
1117	cis-4-[(4-isopropylquinazolin-2-yl)amino]-N-(4-methylbenzyl)cyclohexanecarboxamide	417.3	
1118	cis-N-(3-fluoro-4-methylbenzyl)-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexanecarboxamide	435.2	
1119	cis-N-(2,5-dichlorobenzyl)-4-[(4-isopropylquinazolin-2-yl)amino]cyclohexanecarboxamide	471.3	
1120	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3,5-dimethoxybenzamide	450.4	1
1121	4-chloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]benzamide	424.2	2
1122	3-chloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]benzamide	424.2	1
1123	2,4,6-trichloro-N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]benzamide	492	1
1124	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclopentyl)methyl]-3-fluoro-4-(trifluoromethyl)benzamide	476.2	3
1125	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}-cyclopentyl)methyl]-2-fluoro-4-(trifluoromethyl)benzamide	476.2	3
1126	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-2,5-bis(trifluoromethyl)benzamide	526.4	3
1127	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3-(trifluoromethyl)benzamide	458.2	1
1128	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-4-(trifluoromethoxy)benzamide	474.4	3
1129	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-2,5-difluorobenzamide	426.2	2

Ex. No	compound name	MS	class
1130	N-[((1R,3S)-3-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclopentyl)methyl]-3,5-difluorobenzamide	426.2	1
1131	N2-((1S,3R)-3-{[(3,5-dichlorobenzyl)amino]methyl}-cyclopentyl)-N4,N4-dimethylquinazoline-2,4-diamine	444	
1132	N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-3-fluorobenzamide	408.2	3
1133	N-[(1S,3R)-3-({[4-(dimethylamino)quinazolin-2-yl]amino}methyl)cyclopentyl]-2,4-difluorobenzamide	426.2	3
1134	N4,N4-dimethyl-N2-[((1R,3S)-3-{[3-(trifluoromethyl)benzyl]-amino}cyclopentyl)methyl]quinazoline-2,4-diamine	444	
1135	cis-N-benzyl-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	404.3	1
1136	cis-N-[(6-chloropyridin-3-yl)methyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	439.3	1
1137	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(3-methoxyphenyl)ethyl]cyclohexanecarboxamide	448.3	1
1138	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[1-(4-fluorophenyl)ethyl]cyclohexanecarboxamide	436.3	1
1139	cis-N-[(1R)-1-(4-chlorophenyl)ethyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	452.3	1
1140	cis-N-[1-(4-bromophenyl)ethyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	496.4	1
1141	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(1-naphthyl)ethyl]cyclohexanecarboxamide	468.7	1
1142	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3,5-dimethylbenzyl)cyclohexanecarboxamide	432.4	1
1143	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-fluoro-4-methylbenzyl)cyclohexanecarboxamide	436.4	2
1144	cis-N-(3-chloro-2-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	452.2	1
1145	cis-N-(5-chloro-2-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	452.2	2
1146	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(5-fluoro-2-methylbenzyl)cyclohexanecarboxamide	436.4	1
1147	cis-N-(3-chloro-2,6-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	474.4	1
1148	cis-N-(biphenyl-3-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	480.2	1
1149	cis-N-(biphenyl-4-ylmethyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	480.2	
1150	cis-N-(6-chloro-2-fluoro-3-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	470.4	1
1151	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-fluorobenzyl)cyclohexanecarboxamide	422.2	1
1152	cis-N-(2,6-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	440.4	1

Ex. No.	compound name	MS	class
1153	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(trifluoromethyl)benzyl]cyclohexanecarboxamide	472.4	1
1154	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(1-naphthylmethyl)cyclohexanecarboxamide	454.4	1
1155	cis-N-(4-chlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	438.2	1
1156	cis-N-(3,4-dichlorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	472.4	1
1157	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-fluorobenzyl)cyclohexanecarboxamide	422.2	1
1158	cis-N-(2,5-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	440.4	1
1159	cis-N-(2,3-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	440.4	1
1160	cis-N-(3-bromobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	482.4	1
1161	cis-N-(3-bromo-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	501.2	1
1162	cis-N-(4-bromo-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	501.2	1
1163	cis-N-(5-bromo-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	501.2	1
1164	cis-N-(4-chloro-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	456.4	1
1165	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3-methylbenzyl)cyclohexanecarboxamide	418.2	1
1166	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2-methylbenzyl)cyclohexanecarboxamide	418.2	1
1167	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-(trifluoromethoxy)benzyl]cyclohexanecarboxamide	488.4	1
1168	cis-N-(2,5-difluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	440.4	1
1169	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3,4-trifluorobenzyl)cyclohexanecarboxamide	458.2	1
1170	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,4,5-trifluorobenzyl)cyclohexanecarboxamide	458.2	1
1171	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(3,4,5-trifluorobenzyl)cyclohexanecarboxamide	458.2	1
1172	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-(2,3,6-trifluorobenzyl)cyclohexanecarboxamide	458.2	1
1173	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-fluoro-5-(trifluoromethyl)benzyl]cyclohexanecarboxamide	490.4	1
1174	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-fluoro-2-(trifluoromethyl)benzyl]cyclohexanecarboxamide	490.4	1
1175	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-fluoro-4-(trifluoromethyl)benzyl]cyclohexanecarboxamide	490.4	1

Ex. No.	compound name	MS	class
1176	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-fluoro-3-(trifluoromethyl)benzyl]cyclohexanecarboxamide	490.4	1
1177	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-fluoro-3-(trifluoromethyl)benzyl]cyclohexanecarboxamide	490.4	1
1178	cis-N-[4-chloro-3-(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	506.2	1
1179	cis-N-(2-chloro-6-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	456.2	1
1180	cis-N-(4-chloro-2-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	456.2	1
1181	cis-N-(3-chloro-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	456.2	1
1182	cis-N-(2-chloro-4-fluorobenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	456.2	1
1183	cis-N-[2-chloro-5-(trifluoromethyl)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	506.2	1
1184	cis-N-[2-(difluoromethoxy)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	470.4	1
1185	cis-N-[3-(difluoromethoxy)benzyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	470.4	1
1186	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[3-(trifluoromethoxy)benzyl]cyclohexanecarboxamide	488.4	1
1187	cis-N-(2,4-dichloro-6-methylbenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	486.2	2
1188	cis-N-(2,6-dimethoxybenzyl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	464.2	1
1189	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-phenylethyl]cyclohexanecarboxamide	418.4	1
1190	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1S)-1-(4-methoxyphenyl)ethyl]cyclohexanecarboxamide	448.4	1
1191	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[(1R)-1-(3-methoxyphenyl)ethyl]cyclohexanecarboxamide	448.4	1
1192	cis-N-[bis(4-methoxyphenyl)methyl]-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	540.4	1
1193	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[2-(trifluoromethyl)benzyl]cyclohexanecarboxamide	472.4	1
1194	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-9H-fluoren-9-ylcyclohexanecarboxamide	478.2	1
1195	cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}-N-[4-(methylsulfonyl)benzyl]cyclohexanecarboxamide	482.2	1
1196	cis-N-(6-chloropyridin-3-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	425.1	1
1197	cis-N-(2-chloropyridin-3-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	425.1	3
1198	cis-N-1H-benzimidazol-2-yl-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	430.3	3

Ex. No.	compound name	MS	class
1199	cis-N-(5-bromo-4-tert-butyl-1,3-thiazol-2-yl)-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexanecarboxamide	531.1	3
1200	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-3-(propionylamino)benzamide	461.4	1
1201	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-3-[(3-methylbutanoyl)amino]benzamide	489.4	2
1202	N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)-3-[(2,2-dimethylpropanoyl)amino]benzamide	489.5	2
1203	3-[(cyclopentylcarbonyl)amino]-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)benzamide	501.4	1
1204	3-(acetylamino)-N-(cis-4-{[4-(dimethylamino)quinazolin-2-yl]amino}cyclohexyl)benzamide	447.4	1
1205	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)benzamide	426	1
1206	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-4-methylbenzamide	440	1
1207	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-4-fluorobenzamide	444	1
1208	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3-methoxybenzamide	456	1
1209	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3,4-difluorobenzamide	462	1
1210	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-3-(trifluoromethyl)benzamide	494	1
1211	N-(cis-4-{[4-(dimethylamino)-6,7-difluoroquinazolin-2-yl]amino}cyclohexyl)-4-(trifluoromethoxy)benzamide	510	3

Example 1212

[*cis*-4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid isobutyl ester

Step A: Synthesis of [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid isobutyl ester.

To a solution of N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine obtained in step E of example 1 (300 mg) in $CHCl_3$ (3 mL) were added Et_3N (307 μL) and isobutyl chloroformate (158 mg). The mixture was stirred at ambient temperature for 16 hr. To the reaction was added saturated aqueous $NaHCO_3$ and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtered, concentrated, and purified by flash chromatography (NH-silica gel, 25% to 66% EtOAc in hexane) to give [*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-carbamic acid isobutyl ester (195 mg) as a pale yellow oil. ESI MS m/e 386, $M + H^+$; ^1H NMR (300 MHz, $CDCl_3$) δ 0.93 (d, J = 6.84 Hz, 6 H), 1.51-1.98 (m, 9 H), 3.27 (s, 6 H), 3.69 (brs, 1 H), 3.84 (d, J=6.84 Hz, 2 H), 4.04-4.20 (m, 1 H), 4.69 (brs, 1 H), 4.86-4.98 (m, 1 H), 6.98-7.08 (m, 1 H), 7.40-7.54 (m, 2 H), 7.82 (d, J = 7.93 Hz, 1 H).

Example 1213

1-[*cis*-4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-ethyl-thiourea hydrochloride

Step A: Synthesis of 1-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-ethyl-thiourea hydrochloride.

To a solution of N^2-(*cis*-4-amino-cyclohexyl)-N^4,N^4-dimethyl-quinazoline-2,4-diamine obtained in step E of example 1 (300 mg) in DMSO (3 mL) was added ethyl isothiocyanate (100 mg). The mixture was stirred at ambient temperature for 20 hr. To the reaction mixtuer was added H_2O (20 ml) and the aqueous layer was extracted with $CHCl_3$ (three times). The combined organic layer was dried over $MgSO_4$, filtered, concentrated, and purified by flash chromatography (NH-silica gel, 50% EtOAc in hexane) to give a colorless amorphous. To a solution of the above material in EtOAc (2 mL)

was added 4 M hydrogen chloride in EtOAc (10 mL). The mixture was stirred at ambient temperature for 1 hr and concentrated. A suspension of the residue in Et_2O (20 mL) was stirred at ambient temparature for 1 hr. The precipitate was collected by filtration, washed with Et_2O, and dried at 80 °C under reduced pressure to give 1-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-ethyl-thiourea hydrochloride (296 mg) as a white solid.

ESI MS m/e 373, M (free) + H^+ ; ^1H NMR (300 MHz, DMSO-d6) δ 1.07 (t, J = 7.23 Hz, 3 H), 1.54-1.93 (m, 8 H), 3.30-3.63 (m, 8 H), 3.95-4.23 (m, 2 H), 7.28-7.57 (m, 3 H), 7.70-7.86 (m, 1 H), 8.03-8.26 (m, 2 H), 12.52 (brs, 1 H).

Example 1214

1-[*cis*-4-(4-Dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1,1-dimethyl-propyl)-thiourea hydrochloride

Step A: Synthesis of 1-[*cis*-4-(4-dimethylamino-quinazolin-2-ylamino)-cyclohexyl]-3-(1,1-dimethyl-propyl)-thiourea hydrochloride.

Using the procedure for the step A of example 1213, the title compound was obtained.

ESI MS m/e 415, M (free) + H^+ ; ^1H NMR (300 MHz, DMSO-d_6) δ 0.77 (t, J = 7.5 Hz, 3 H), 1.16 (s, 3 H), 1.36 (s, 3 H), 1.41-1.99 (m, 10 H), 3.48 (s, 6 H), 3.90-4.3 (m, 2 H), 7.18-7.54 (m, 3 H), 7.78 (t, J = 7.5 Hz, 1 H), 8.17 (d, J = 9.0 Hz, 1 H), 8.28 (brs, 1 H), 12.87 (brs, 1 H).

Assay Procedures

Example 1215

ASSAY FOR DETERMINATION OF CONSTITUTIVE ACTIVITY OF NON-ENDOGENOUS GPCRS

A. **Intracellular IP_3 Accumulation Assay**

On day 1, cells to be tranfected can be plated onto 24 well plates, usually $1x10^5$ cells/well (although his umber can be optimized. On day 2 cells can be transfected by firstly mixing 0.25ug

DNA (e.g., pCMV vector or pCMV vector comprising polynucleotide enocoding receptor) in 50 ul serum free DMEM/well and 2 ul lipofectamine in 50 µl serum-free DMEM/well. The solutions are gently mixed and incubated for 15-30 min at room temperature. Cells are washed with 0.5 ml PBS and 400 µl of serum free media is mixed with the transfection media and added to the cells. The cells are then incubated for 3-4 hrs at 37°C/5%CO_2 and then the transfection media is removed and replaced with 1ml/well of regular growth media. On day 3 the cells are labeled with ^{3}H-myo-inositol. Briefly, the media is removed and the cells are washed with 0.5 ml PBS. Then 0.5 ml inositol-free/serum free media (GIBCO BRL) is added/well with 0.25 µCi of ^{3}H-myo-inositol/ well and the cells are incubated for 16-18 hrs o/n at 37°C/5%CO_2 On Day 4 the cells are washed with 0.5 ml PBS and 0.45 ml of assay medium is added containing inositol-free/serum free media 10µM pargyline 10 mM lithium chloride or 0.4 ml of assay medium and 50 ul of 10x ketanserin (ket) to final concentration of 10µM. The cells are then incubated for 30 min at 37°C. The cells are then washed with 0.5 ml PBS and 200 ul of fresh/ice cold stop solution (1M KOH; 18 mM Na-borate; 3.8 mM EDTA) is added/well. The solution is kept on ice for 5-10 min or until cells were lysed and then neutralized by 200 µl of fresh/ice cold neutralization sol. (7.5 % HCL). The lysate is then transferred into 1.5 ml eppendorf tubes and 1 ml of chloroform/methanol (1:2) is added/tube. The solution is vortexed for 15 sec and the upper phase is applied to a Biorad AG1-X8™ anion exchange resin (100-200 mesh). Firstly, the resin is washed with water at 1:1.25 W/V and 0.9 ml of upper phase is loaded onto the column. The column is washed with 10 mls of 5 mM myo-inositol and 10 ml of 5 mM Na-borate/60mM Na-formate. The inositol tris phosphates are eluted into scintillation vials containing 10 ml of scintillation cocktail with 2 ml of 0.1 M formic acid/ 1 M ammonium formate. The columns are regenerated by washing with 10 ml of 0.1 M formic acid/3M ammonium formate and rinsed twice with H_2O and stored at 4°C in water.

Example 1216

High Throughput Functional Screening: FLIPR™

Subsequently, a functional based assay was used to confirm the lead hits, referred to as FLIPR™ (the Fluorometric Imaging Plate Reader) and FDSS6000™ (Functional Drug Screening System). This assay utilized a non-endogenous, constitutively active version of the MCH receptor.

The FLIPR and FDSS assays are able to detect intracellular Ca^{2+} concentration in cells, which can be utilized to assess receptor activation and determine whether a candidate compound is an, for example, antagonist, inverse agonist or agonist to a Gq-coupled receptor. The concentration of free Ca^{2+} in the cytosol of any cell is extremely low, whereas its concentration in the extracellular fluid and endoplasmic reticulum (ER) is very high. Thus, there is a large gradient tending to drive Ca^{2+} into the cytosol across both the plasma membrane and ER. The FLIPR™ and FDSS6000™ systems (Molecular Devices Corporation, HAMAMATSU Photonics K.K.) are designed to perform functional cell-based assays, such as the measurement of intracellular calcium for high-throughput screening. The measurement of fluorescent is associated with calcium release upon activation of the Gq-coupled receptors. Gi or Go coupled receptors are not as easily monitored through the FLIPR™ and FDSS6000™ systems because these G proteins do not couple with calcium signal pathways.

Fluorometric Imaging Plate Reader system was used to allow for rapid, kinetic measurements of intracellular fluorescence in 96 well microplates (or 384 well microplates). Simultaneous measurements of fluorescence in all wells can be made by FLIPR or FDSS6000™ every second with high sensitivity and precision. These systems are ideal for measuring cell-based functional assays such as monitoring the intracellular calcium fluxes that occur within seconds after activation of the Gq coupled receptor.

Briefly, the cells are seeded into 96 well at $5.5x10^4$ cells/well with complete culture media (Dulbecco's Modified Eagle Medium with 10 % fetal bovine serum, 2 mM L-glutamine, 1 mM sodium pyruvate and 0.5 mg/ml G418, pH 7.4) for the assay next day. On the day of assay, the media is removed and the cells are incubated with 100 µl of loading buffer (4 µM Fluo4-AM in complete culture media containing 2.5 mM Probenicid, 0.5 mg/ml and 0.2% bovine serum albumin) in 5% CO_2 incubator at 37°C for 1 hr. The loading buffer is removed, and the cells are washed with wash buffer (Hank's Balanced Salt Solution containing 2.5 mM Probenicid, 20 mM HEPES, 0.5 mg/ml and 0.2% bovine serum albumin, pH 7.4)). One hundred fifty µl of wash buffer containing various

concentrations of test compound is added to the cells, and the cells are incubated in 5% CO_2 incubator at 37°C for 30 min. Fifty μl of wash buffer containing various concentration of MCH are added to each well, and transient changes in $[Ca^{2+}]i$ evoked by MCH are monitored using the FLIPR or FDSS in 96 well plates at Ex. 488 nm and Em. 530 nm for 290 second. When antagonist activity of compound is tested, 50 nM of MCH is used.

Use of FLIPR™ and FDSS6000™ can be accomplished by following manufacturer's instruction (Molecular Device Corporation and HAMAMATSU Photonics K.K.).

Representative examples are shown below.

Compound No.	IC_{50} (nM)
Example 1	13
Example 2	13
Example 3	4.9
Example 898	3.3
Example 909	0.97

The results shown in the previous tables are in accordance with the classification as defined below.

Class 1 : The value of percent of control at 10^{-7} M was less than 40% or the value of IC_{50} was less than 50 nM.

Class 2 : The value of percent of control at 10^{-7} M was from 40% to 60% or the value of IC_{50} was from 50 nM to 200 nM.

Class 3 : The value of percent of control at 10^{-7} M was more than 60% or the value of IC_{50} was more than 200 nM.

The compounds in Examples 886 to 991 were tested and they showed IC_{50} activities less than about 50 μM.

Example 1217

Receptor Binding Assay

In addition to the methods described herein, another means for evaluating a test compound is by determining binding affinities to the MCH receptor. This type of assay generally requires a radiolabelled ligand to the MCH receptor. Absent the use of known ligands for the MCH receptor and radiolabels thereof, compounds of Formula (I) can be labelled with a radioisotope and used in an assay for evaluating the affinity of a test compound to the MCH receptor.

A radiolabelled MCH compound of Formula (I) can be used in a screening assay to identify/evaluate compounds. In general terms, a newly synthesized or identified compound (i.e., test compound) can be evaluated for its ability to reduce binding of the "radiolabelled compound of Formula (I)" to the MCH receptor. Accordingly, the ability to compete with the "radio-labelled compound of Formula (I)" or **Radiolabelled MCH Ligand** for the binding to the MCH receptor directly correlates to its binding affinity of the test compound to the MCH receptor.

ASSAY PROTOCOL FOR DETERMINING RECEPTOR BINDING FOR MCH:

A. MCH RECEPTOR PREPARATION

293 cells (human kidney, ATCC), transiently transfected with 10 ug human MCH receptor and 60 ul Lipofectamine (per 15-cm dish), are grown in the dish for 24 hours (75% confluency) with a media change and removed with 10 ml/dish of Hepes-EDTA buffer (20mM Hepes + 10 mM EDTA, pH 7.4). The cells are then centrifuged in a Beckman Coulter centrifuge for 20 minutes, 17,000 rpm (JA-25.50 rotor). Subsequently, the pellet is resuspended in 20 mM Hepes + 1 mM EDTA, pH 7.4 and homogenized with a 50- ml Dounce homogenizer and again centrifuged. After removing the supernatant, the pellets can be stored at -80°C, until used in binding assay. When used in the assay, membranes are thawed on ice for 20 minutes and then 10 mL of incubation buffer (20 mM Hepes, 1 mM $MgCl_2$, 100 mM NaCl, pH 7.4) added. The membranes are then vortexed to resuspend the crude membrane pellet and homogenized with a Brinkmann PT-3100 Polytron homogenizer for 15 seconds at setting 6. The concentration of membrane protein is determined using the BRL Bradford protein assay.

B. BINDING ASSAY

For total binding, a total volume of 50ul of appropriately diluted membranes (diluted in assay buffer containing 50mM Tris HCl (pH 7.4), 10mM $MgCl_2$, and 1mM EDTA; 5-50ug protein) is added to 96-well polyproylene microtiter plates followed by addition of 100ul of assay buffer and 50ul of **Radiolabelled MCH Ligand**. For nonspecific binding, 50 ul of assay buffer is added instead of 100ul and an additional 50ul of 10uM cold **MCH** is added before 50ul of **Radiolabelled MCH Ligand** is added. Plates are then incubated at room temperature for 60-120 minutes. The binding reaction is terminated by filtering assay plates through a Microplate Devices GF/C Unifilter filtration plate with a Brandell 96-well plate harvestor followed by washing with cold 50 mM Tris HCl, pH 7.4 containing 0.9% NaCl. Then, the bottom of the filtration plate are sealed, 50 µl of Optiphase Supermix is added to each well, the top of the plates are sealed, and plates are counted in a Trilux MicroBeta scintillation counter. For compound competition studies, instead of adding 100 µl of assay buffer, 100 µl of appropriately diluted test compound is added to appropriate wells followed by addition of 50 µl of **Radiolabelled MCH Ligand.**

C. CALCULATIONS

The test compounds are initially assayed at 1 and 0.1 µM and then at a range of concentrations chosen such that the middle dose would cause about 50% inhibition of a **Radio-MCH Ligand** binding (i.e., IC_{50}). Specific binding in the absence of test compound (B_O) is the difference of total binding (B_T) minus non-specific binding (NSB) and similarly specific binding (in the presence of test compound) (B) is the difference of displacement binding (B_D) minus non-specific binding (NSB). IC_{50} is determined from an inhibition response curve, logit-log plot of % B/B_O vs concentration of test compound.

K_i is calculated by the Cheng and Prustoff transformation:

$$K_i = IC_{50} / (1 + [L]/K_D)$$

wherein [L] is the concentration of a **Radio-MCH Ligand** used in the assay and K_D is the dissociation constant of a **Radio-MCH Ligand** determined independently under the same binding

conditions.

It is intended that each of the patents, applications, printed publications, and other published documents mentioned or referred to in this specification be herein incorporated by reference in their entirety.

Those skilled in the art will appreciate that numerous changes and modifications may be made to the preferred embodiments of the invention and that such changes and modifications may be made without departing from the spirit of the invention. It is therefore intended that the appended claims cover all such equivalent variations as fall within the true spirit and scope of the invention.